

*Shotgun wedding in a ghost town*

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# BUSINESS WEEK

A MCGRAW-HILL PUBLICATION

FIFTY CENTS

OCT. 12, 1957



Steel's billion dollar bet on  
expansion: ore beneficiation  
(Production)

E B POWER  
UNIVERSITY MICROFILMS  
313 N 1 ST  
2-C  
ANN ARBOR MICH



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—PITTSBURGH PLATE GLASS COMPANY, Pittsburgh

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"In addition to payroll writing, these

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"We are impressed with the ease and simplicity with which the equipment operates."

*H. Williams*

Controller, Pittsburgh Plate Glass Company

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# IN BUSINESS THIS WEEK, October 12, 1957

## GENERAL BUSINESS

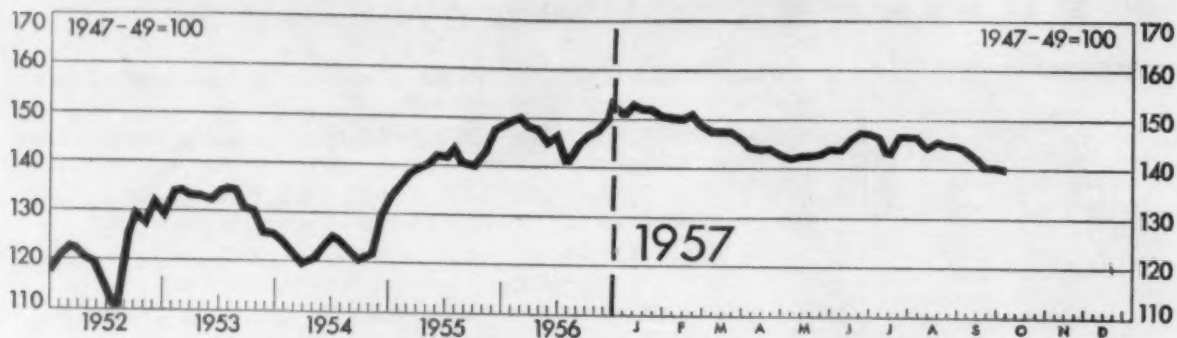
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# FIGURES OF THE WEEK



## BUSINESS WEEK INDEX (chart) . . . . .

1946 Average	Year Ago	Month Ago	Week Ago	\$ Latest Week
91.6	146.9	144.6	141.0	*140.6

## PRODUCTION

Steel ingot (thous. of tons).....	1,281	2,483	2,097	†2,115	2,088
Automobiles and trucks.....	62,880	84,113	110,839	†62,167	31,238
Engineering const. awards (Eng. News-Rec. 4-wk daily av. in thous.).....	\$17,083	\$72,724	\$55,235	\$52,764	\$55,340
Electric power (millions of kilowatt-hours).....	4,238	11,342	11,678	11,697	11,564
Crude oil and condensate (daily av., thous. of bbls.).....	4,751	7,022	6,807	6,821	6,812
Bituminous coal (daily av., thous. of tons).....	1,745	1,744	1,677	1,678	1,700
Paperboard (tons).....	167,269	280,809	214,792	300,659	298,603

## TRADE

Carloadings: miscellaneous and l.c.l. (daily av., thous. of cars).....	82	78	69	67	68
Carloadings: all others (daily av., thous. of cars).....	53	61	55	53	55
Department store sales index (1947-49 = 100, not seasonally adjusted).....	90	130	134	126	130
Business failures (Dun & Bradstreet, number).....	22	253	208	278	261

## PRICES

Spot commodities, daily index (Moody's, Dec. 31, 1931 = 100).....	311.9	419.4	415.8	394.7	392.5
Industrial raw materials, daily index (BLS, 1947-49 = 100).....	††73.2	98.0	90.1	88.2	87.6
Foodstuffs, daily index (BLS, 1947-49 = 100).....	††75.4	81.4	85.3	81.9	81.8
Print cloth (spot and nearby, yd.).....	17.5¢	19.3¢	17.8¢	17.8¢	17.7¢
Finished steel, index (BLS, 1947-49 = 100).....	††76.4	168.6	181.5	181.5	181.7
Scrap steel composite (Iron Age, ton).....	\$20.27	\$56.17	\$48.50	\$40.83	\$39.33
Copper (electrolytic, delivered price, E & M J, lb.).....	14.04¢	39.91¢	26.85¢	26.91¢	26.78¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.).....	\$1.97	\$2.30	\$2.12	\$2.12	\$2.12
Cotton, daily price (middling, 1 in., 14 designated markets, lb.).....	**30.56¢	33.24¢	33.26¢	33.33¢	33.41¢
Wool tops (Boston, lb.).....	\$1.51	\$1.91	\$2.12	†\$2.08	N.A.

## FINANCE

500 stocks composite, price index (S&P's, 1941-43 = 10).....	17.08	46.44	44.38	42.68	42.42
Medium grade corporate bond yield (Baa issues, Moody's).....	3.05%	41.5%	4.91%	4.97%	4.96%
Prime commercial paper, 4 to 6 months, N. Y. City (prevailing rate).....	¾-1%	3% %	4%	4%	4%

## BANKING (Millions of Dollars)

Demand deposits adjusted, reporting member banks.....	††45,820	54,915	54,413	†54,788	54,015
Total loans and investments, reporting member banks.....	††71,916	85,655	86,281	†86,558	87,898
Commercial and agricultural loans, reporting member banks.....	††9,299	29,849	32,046	†32,408	32,331
U. S. gov't guaranteed obligations held, reporting member banks.....	††49,879	25,979	24,787	†24,537	25,654
Total federal reserve credit outstanding.....	23,888	25,593	25,228	25,622	25,304

## MONTHLY FIGURES OF THE WEEK

	1946 Average	Year Ago	Month Ago	Latest Month
Wholesalers' inventories (seasonally adjusted, in billions).....August.....	\$5.5	\$12.5	\$12.7	\$12.8
Retailers' inventories (seasonally adjusted, in billions).....August.....	\$9.8	\$23.8	\$24.1	\$24.3
Exports (in millions).....August.....	\$812	\$1,535	\$1,694	\$1,678

\* Preliminary, week ended October 5, 1957.  
† Revised.

†† Estimate.  
\*\* Ten designated markets, middling ½ in.

‡ Data for 'Latest Week' on each series on request.  
N.A.—Not available.

THE PICTURES—Atomic Energy Commission—70; Berkeley Cars Ltd.—100; Cal Bernstein—192, 193, 195; S. Blickman, Inc.—144 (top); Commonwealth Edison Co.—182; Grant Compton—173; Consolidated Diesel—143; Deere & Co.—94; International Bank for Reconstruction & Development—89 (top), 98 (lt.); I.N.P.—40 (rt.); Herb Kratochvil—120; Loden Associates, Inc.—146; Leonard Nadel—78, 79; Ed Nano—cover, 132, 134, 138; Bradley Smith—89 (bot.); Sperry Gyroscope Co.—144 (bot.); U.P.—155; Westinghouse—30; W.W.—40 (lt.), 45, 98 (rt.); Hamilton Wright Org., Inc.—93.

**B.F. Goodrich adhesive report:**

# Skyscrapers go up faster with curtain-wall construction



Integrated Wall System by Textile, Inc., Dallas, Texas

**T**HE walls of that building were put up in only 25 days—a job that would have taken 3 or 4 months if bricks had been used. This new kind of wall is made of thin, light panels that are quickly hung and bolted into place.

**Problem:** In the beginning makers of "curtain wall" panels had trouble with adhesives used to hold outer porcelain-enamel steel, the insulation, and the inner steel wall of the panel together. An adhesive was needed which would be easy to work with, could stand expansion and contraction caused by heat and cold, would resist structural forces for long periods and so wouldn't "creep", as engineers call it.

**What was done:** A manufacturer brought his problem to specialists in the B.F. Goodrich adhesive department. They recommended "Plastilock 604", a B.F. Goodrich structural adhesive. When "cured" under heat and pressure, the bond is stronger than the bond between the porcelain and the steel.

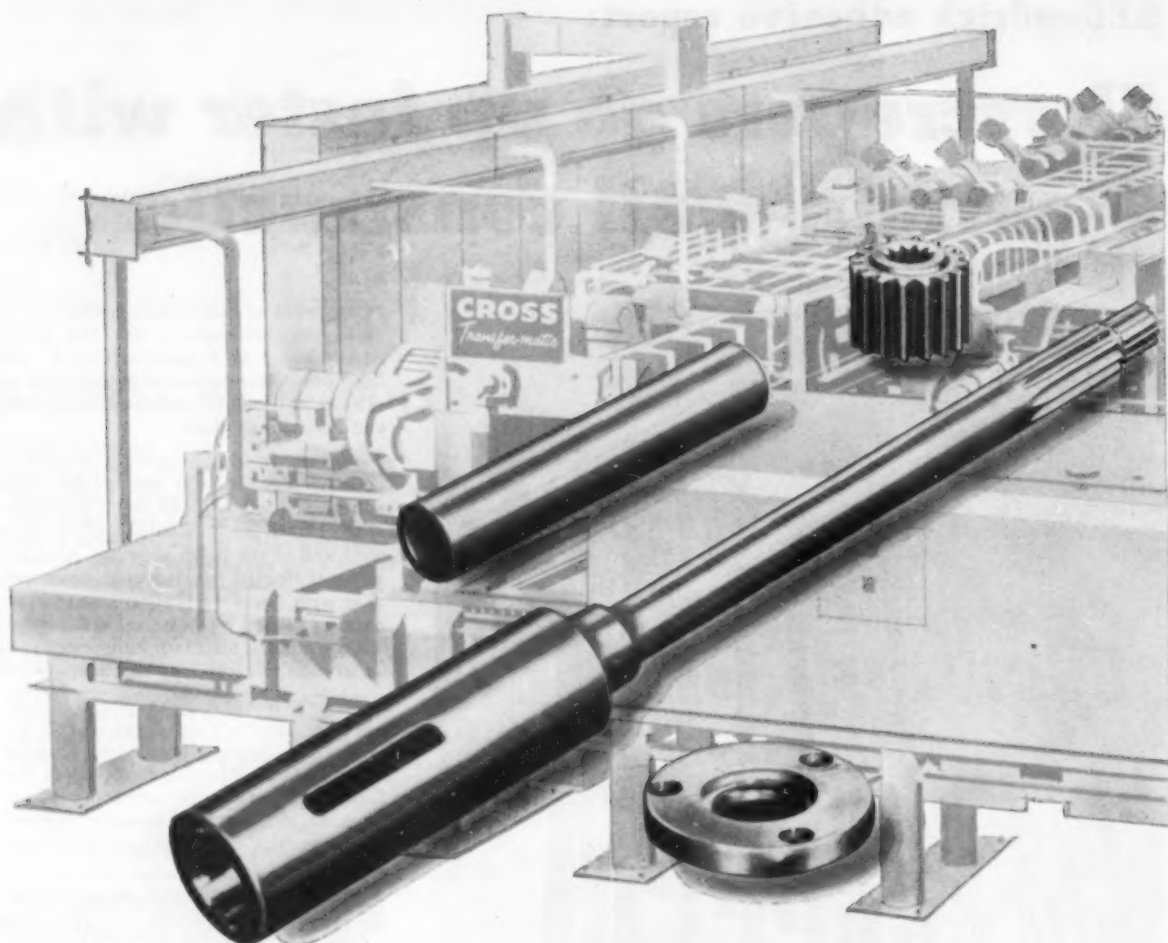
**Extra benefits:** This adhesive stands temperatures from 67 below zero to 300 degrees above. In walls of buildings it stands vibration, impact, hurricane forces, has good water resistance, will never loosen and will last as long as the building lasts.

At left you see the new Dallas Federal Savings and Loan Association Building, Dallas, Texas, which is one of many buildings in which B.F. Goodrich adhesive has been used in curtain-wall construction.

**For information:** Plastilock 604 is one of the Plastilock family of adhesives that has been proved for years in bonded brake linings, helicopter blades, supersonic planes, grinding wheels, metal signs, printed circuits, and many other products. B.F. Goodrich makes hundreds of different adhesives for thousands of industrial uses. For more information about Plastilock 604 or other adhesives to solve a specific problem, write B.F. Goodrich Industrial Products Co., Dept. M-196, Akron 18, Ohio.



**INDUSTRIAL ADHESIVES**



THE **CROSS** co.

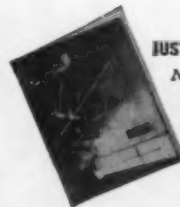
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BUSINESS WEEK • OCTOBER 12, 1957 • NUMBER 1467

(with which are combined The Annalist and the Magazine of Business) Published weekly by McGraw-Hill Publishing Company, Inc., James H. McGraw (1860-1948), Founder. PUBLICATION OFFICE: 99-129 North Broadway, Albany 1, N. Y. See panel below for directions regarding subscriptions or change of address. EXECUTIVE, EDITORIAL, CIRCULATION AND ADVERTISING OFFICES: McGraw-Hill Building, 330 West 42nd Street, N. Y. 36, N. Y. Donald C. McGraw, President; Joseph A. Gerardi, Executive Vice President; L. Keith Goodrich, Vice President and Treasurer; John J. Cooke, Secretary; Nelson Bond, Executive Vice President, Publications Division; Ralph B. Smith, Vice President and Editorial Director; Joseph H. Allen, Vice President and Director of Advertising Sales; A. R. Venezian, Vice President and Circulation Coordinator. Subscriptions to Business Week are solicited only from management men in business and industry. POSITION AND COMPANY CONNECTION MUST BE INDICATED ON SUBSCRIPTION ORDERS. SEND TO ADDRESS SHOWN IN BOX BELOW. United States subscription rates for individuals in the field of the publication, \$6 per year; Canada, \$7; other Western Hemisphere countries and the Philippines, \$20; all other countries, \$25. Single copies, 50¢. Second class mail privileges authorized at Albany, N. Y. Printed in U. S. A. Title registered in U. S. Patent Office. © Copyright 1957 by McGraw-Hill Publishing Co., Inc. All rights reserved.

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BUSINESS WEEK • Oct. 12, 1957

## READERS REPORT

### Statistical Error

Dear Sir:

In The Markets department, Strength in the Decline [BW—Sep. 14 '57, p181], Trane stock is tabulated as the weakest of weak sisters, with a 35.8% range between July high and "recent low." We must be the victim of a typographical error.

. . . The Trane high in July was 56½ and the Trane low between that time and September 13 was 45, giving us a difference of 11.5 or 20.4% . . .

Will you please let us know the basis used for figuring? As you can well imagine, we will be extremely interested in learning just what basis was used for arriving at this astounding figure.

GERALD STECKER

CONTROLLER  
 THE TRANE CO.  
 LA CROSSE, WIS.

• Unfortunately our 35.8% result included a statistical error. Actually, at the time our table was prepared, Trane stock was at 46¼ and the percentage drop should have been 18.1%. This, of course, would have made Trane's comparative showing much better.

### Syndication Problems

Dear Sir:

Have read with a great deal of interest your article regarding real estate syndicates, Personal Business [BW—Aug. 24 '57, p149]. The writer and his firm have pioneered in syndicate work and I must say that it is one of the most informative articles I have read with respect to this particular field.

However, it might interest you that one phase of syndication (fortunately confined only to one syndicator, to my knowledge) has proved a dud. In this particular instance the syndicator sold fractional interests, which in some instances involved more than 100 participants. There was nothing wrong with this until a participant decided to resell his particular interest. He found to his consternation that he had to go through the agony and expense of a title search and insurance, just as if he were selling the entire property. Only in his instance the expense was substantially higher because of the more complicated search.

Regardless of whether he stood



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BUSINESS

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## MEMO FROM MANPOWER

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... That's been our record during the past few years! Every 21 seconds during the business day another business man calls one of the 117 Manpower branch offices for temporary help. Let's take a quick glance at a few of the problems solved by using Manpower, Inc. employees temporarily . . . perhaps among these brief case histories you will find ways to improve

efficiency, save money and avoid trouble in your own business.

in *Milwaukee*, a *Lumber Company* called for 12 men to unload a shipment of material from the mill.

in *Portland, Oregon*, a bank used 20 Manpower typists for three weeks in its record department typing account data.

in *Albuquerque*, a supermarket called for 50 Manpower employees to take a physical inventory between 7 p.m. Saturday, and Monday morning.

in *Philadelphia*, a manufacturer used 13 Manpower typists and 4 stenos to complete a backlog of office work.

in *Buffalo*, a soft drink bottler used 2 Manpower demonstrators to dispense samples at a national convention.

in *Atlanta*, a Manufacturer used 80 Manpower factory workers to do assembly work during a peak season.

This, of course, is a small cross section of Manpower customers, but, I'm sure you have many similar problems in your own firm which can be solved by Manpower. When you use Manpower, Inc. employees to do your work, we keep all records, pay all taxes and insurance — You simply pay us low hourly rates

In answer to many requests from our customers and friends, I have prepared a pamphlet on hiring techniques and employee relations entitled "100 Helpful Hiring Hints" . . . I would like to send you a copy FREE . . . just drop me a note here in Milwaukee.

Nice being with you,

Elmer L. Winter,  
President

P.S. When writing for your FREE booklet "100 Helpful Hiring Hints" direct your note to my personal attention.

### **manpower, inc.**

816 N. PLANKINTON AVE., MILWAUKEE, WIS.  
OVER 100 OFFICES COAST-TO-COAST

the expense or the purchaser would stand the expense, it was there. It took a few of these experiences for the whole scheme to be abandoned. . . .

H. ROBERT MANDEL

PRESIDENT  
ABBOTT & ADAMS, INC.,  
REAL ESTATE  
NEW YORK, N. Y.

### Good Explanation

Dear Sir:

Congratulations on a job well done—your article *Why the Red Metal Has Been So Weak So Long* [BW—Sep.7'57,p132].

Now I can show your story to my customers because it certainly explains the economics of the copper industry. I have always found it very difficult to explain the ups and downs of the "red metal," because most buyers think of a finished copper product in terms of a more or less fixed price. . . .

May I, however, make a small correction. You mentioned among these independents, "Triangle Wire & Cable Co., Inc." I believe you had reference to the "Triangle Conduit & Cable Co., Inc." of New Brunswick, N. J., who not only are a large fabricator of copper wire and cable, and copper tube, but also are among the largest producers of steel electrical conduit and plastic pipe. . . .

PAUL SHANK

FLORIDA REPRESENTATIVE  
COPPER & PLASTIC PIPE DIV.  
TRIANGLE CONDUIT & CABLE CO.,  
INC.  
TAMPA, FLA.

Dear Sir:

The article on copper is quite good.

I would, however, like to comment on the statement that by changing prices because of the custom smelters, the mine producers "... let a guy with a little amount of copper set a low price." This is a typical comment of large mine producers, particularly those in the United States, who evidently do not take into account the very large quantity of obsolescent scrap which flows to the fabricators, brass ingot makers, foundries, etc. in addition to the production of primary producers and custom smelters.

Last year we estimate that the mine producers and the custom smelters in the free world produced about 3.75-million short tons of refined copper, of which about 200,000 tons was custom smelter copper. In addition to this production, about 1.3-million tons of

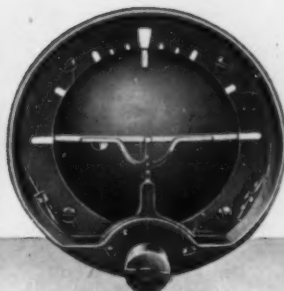
**SPERRY C-2  
GYROSYN COMPASS**

- does not drift
- requires no resetting
- electrically driven
- 3½" panel mounting
- 8 lbs. total weight



**SPERRY H-5  
GYRO-HORIZON**

- non-tumbling
- can be used 30 seconds after power application
- electrically driven
- 3½" panel mounting
- 2½ lbs. total weight



## How much does it cost to fly with instruments of airline accuracy?

The cost is surprisingly small. Especially when you compare it with the investment your business aircraft represents.

The benefits of flight with the Sperry C-2 Gyrosyn\* Compass and the Sperry H-5 Gyro-Horizon are a matter of practical business. Modern aircraft need modern instrumentation to fly straighter courses and for more accurate navigation.

The Sperry C-2 Gyrosyn Compass, in contrast to air-driven models, does not drift—requires no resetting. You fly straighter courses, thus reducing flight

time and also flight cost.

The Sperry H-5 Gyro-Horizon is also more reliable than air-driven models. It is non-tumbling and can be used just 30 seconds after power application.

Both of these instruments are small, lightweight and engineered for accuracy with Sperry's traditional precision. Both are used where accuracy of schedules and safety are vital—with the world's major airlines. Here they have demonstrated thousands of hours of trouble-free performance.

For further information write our Aeronautical Equipment Division, or nearest district office.

\* T. M. REG. U. S. PAT. OFF.

**AERONAUTICAL EQUIPMENT DIVISION**

**SPERRY** *GYROSCOPE COMPANY*  
Great Neck, New York

DIVISION OF SPERRY RAND CORPORATION

CLEVELAND • NEW ORLEANS • BROOKLYN • LOS ANGELES  
SAN FRANCISCO • SEATTLE, IN CANADA: SPERRY GYROSCOPE  
COMPANY OF CANADA, LIMITED, MONTREAL, QUEBEC



PHOTO BY BELLS

**1** Board Chairman Rexford S. Blazer (seated) and President Everett F. Wells of Ashland Oil & Refining Company. "When we pick suppliers," says Board Chairman Blazer, "we do so on the basis of their reputation for quality products, dependable de-

livery, and scope of technical service. We're glad to have Wyandotte on our team." In background: One of Ashland Oil's powerful towboats which transport crude oil in tank barges, via inland waterways, to the company's refining centers.



**2** Ashland's three largest refineries have a combined capacity of 140,000 barrels per day. Chemicals from Wyandotte are used to make many products for the petroleum and auto industries, from tires to hydraulic fluids and radiator cleaners.



**3** A famous motor oil is joined by companion product, Valvoline permanent-type antifreeze—another in a growing list of Ashland products. Wyandotte's line is also diversified; includes glycols, bicarb, soda ash, chlorine, to name a few.



**4** New Ashland Oil service stations of this modern design are springing up in Kentucky, Ohio, West Virginia, and adjoining areas; handle Ashland's quality gasolines under three established brand names: "Ashland," "Aetna," and "Frontier."





*How an independent oil company, with an assist from chemistry,*

# helps make industry tick

Nestled near the banks of the busy Ohio River in Ashland, Kentucky, is the home office of one of the most dynamic independent oil companies in the U.S. — Ashland Oil & Refining Company. Controlling a sprawling network of refineries, pipelines, and products terminals, Ashland Oil serves industry and consumers in the heart of industrial America with an ever-growing list of products, from asphalt to xylene.

A famous name in their product group is Valvoline\* Motor Oil. Familiar to motorists throughout the world in its distinctive package, it's reputed to be the first and oldest (90 yrs.) brand-name oil. Big news from Ashland today is that Valvoline now has a companion product: Valvoline Antifreeze—sure to win quick acceptance in the booming "winterizing" market.

Wyandotte is proud to serve a successful growth company like Ashland Oil as a supplier of ethylene glycol for its new antifreeze . . . as well as of other products, such as caustic soda for processing. Fact is, Wyandotte serves practically every industry you can name, from petroleum to textile, ink, and paper.

Point is, if you're looking for a dependable source for raw-material chemicals, Wyandotte is a good name to remember. Quality products, convenient location . . . and helpful technical service should you need it. *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.*

\*Registered trademark of Ashland Oil & Refining Company

## Wyandotte CHEMICALS

**Pacing progress with creative chemistry**



**5** Modern laboratory equipment, like this mass spectrometer, helps Ashland Oil maintain quality control of petroleum products. Wyandotte, too, exercises rigid control in every important process, to ensure high quality, purity of its chemicals.



**6** By merely pushing a button, this Ashland technical-service engineer can compare performance of several grades of gasoline in specially equipped test car. Wyandotte laboratories are also equipped to test new products in use before marketing.



**7** Wyandotte's modern glycol plant. With these complete facilities and our fully equipped research center, we can help you solve many product or processing problems. If you have a chemical or processing problem, why not call us in?



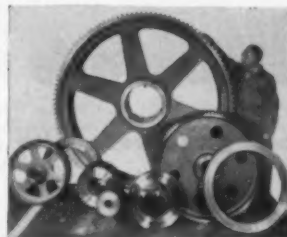
## 37 minute job now takes 5 minutes ...with OSBORN Power Brushing

For a uniform, high-quality finish ... for a fast, efficient job—this gear manufacturer depends on Osborn Power Brushing.

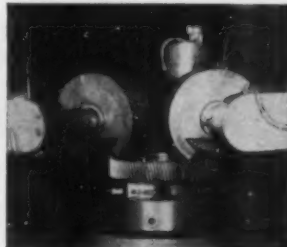
It used to take over 37 minutes to hand-finish both sides of these 16" diameter gears. Now it's done in 5 minutes—floor to floor—with Osborn Brushmatic®—7½ times faster.

But time-saving is only part of the story. A wide range of types and sizes of parts (long runs or job lots) are easy to handle because a Brushmatic is so simple to set up, operate and adjust for any job. Brushmatic produces surface juncture blends not possible by other methods.

This is typical of jobs that Osborn Power Brushing can do for you today. Boosting production ... improving quality ... cost savings are important to you. Write us for full details. The Osborn Manufacturing Company, Dept. A-106, Cleveland 14, Ohio.



Wide size range of gears ... is easily set up, efficiently handled on Osborn Brushmatic® machines.



Removing burrs ... and blending surface junctures on gear teeth is done quickly, economically with Osborn Brushmatic 51-3L machine and Osborn Tufmatic® brushes.



BRUSHING MACHINES • BRUSHING METHODS  
INDUSTRIAL BRUSHES • FOUNDRY PRODUCTION MACHINERY

scrap were generated and purchased by the fabricators, brass ingot manufacturers, foundries, etc. Hence, it is about 1.5-million tons per annum or about 30% of the total supply with which the mine producers have to contend and not the "little amount of copper" mentioned in your article.

Most scrap goes to the brass mills, brass ingot manufacturers and foundries; some of it goes to the wire and cable mills. The custom smelters cannot compete for most of this scrap. During periods when the copper market is in short supply, the mills will bid up the price of scrap. During the reverse period, the same mills will offer cheaper prices for scrap and reduce their purchases of refined copper from mine producers and custom smelters. ...

J. VUILLEQUEZ

THE AMERICAN METAL CO., LTD.  
NEW YORK, N. Y.

• The statement Reader Vuillequez flays is, indeed, typical of those made by U.S. producers—and it was so quoted. His estimate that custom smelters supply 30% of the world's copper needs, adds weight to one of the article's main contentions that custom smelters play an important and competitive role in determining the red metal's prices.

### Pertinent Point

Dear Sir:

In your Production story Heat, Vacuum Team Up to Treat Jet-Age Metals [BW—Jun.22'57,p87] you offered a rather excellent treatise on vacuum heating. ...

There are a number of things which possibly could have been added to the article and we think they are pertinent.

Recently we received a report that in 1931 a practical vacuum furnace was developed in Germany. We remembered that our readers indicate that we made two of them for Raytheon Manufacturing Co. in 1929, with the first being delivered on May 16, and we have made them since that time. ...

WILLIAM E. SAUTER

ASST. TO THE PRES.

C. I. HAYES, INC.

CRANSTON, R. I.

Letters should be addressed to Readers Report Editor, BUSINESS WEEK, 330 West 42nd Street, New York 36, N. Y.



# first

*Burroughs is first with the full power of a giant electronic computing system at half the cost...the Datatron 220.*

First too, a medium-priced system with a full magnetic core memory, increasing productivity 10 to 15 times over previous systems. Designed for *both* scientific computation and business data processing. Delivery of the Datatron 220 will begin during the 2nd quarter of 1958. For a summary of its benefits, write to Dept. B, Pasadena, California:

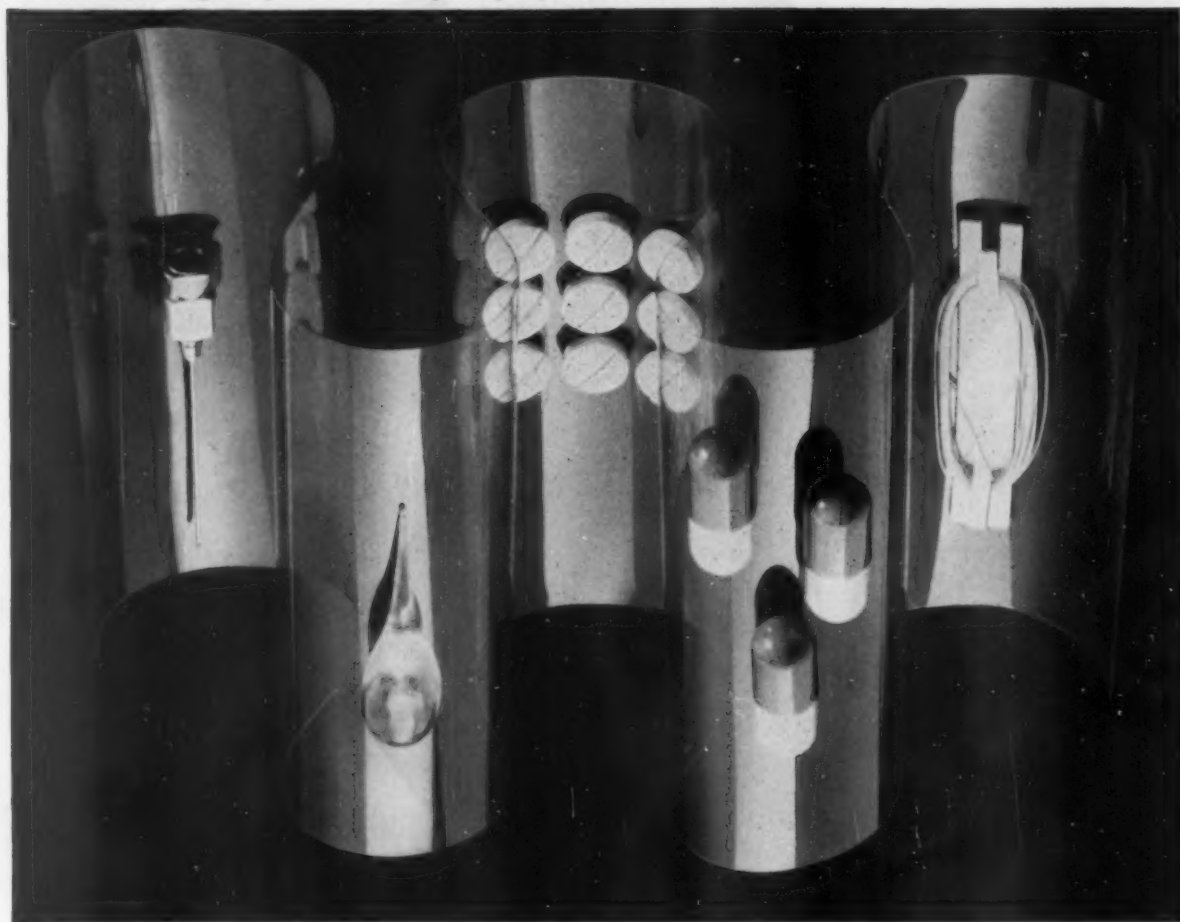


**ElectroData** DIVISION

**BURROUGHS CORPORATION**

GRAPHIC • MECHANICAL • ELECTRO-MECHANICAL • ELECTRONIC SYSTEMS

*extending the usefulness of man's mind*



## A radically new solution to pharmaceutical packaging problems...KEL-F® films

unplasticized, plasticized and radiant-resistant grades

Now film can compete with any packaging material and win... especially on tough pharmaceutical packaging jobs.

The reason? A totally new, virtually indestructible type of packaging material... films made of KEL-F® tri-fluorochloroethylene polymer.

There is no other film that comes close to offering the unique combination of exceptional properties listed on the right. KEL-F films do. Think of them in terms of your products!

With KEL-F films, packaging opportunities for chemicals, ethical drugs and surgical supplies, or any valuable or delicate merchandise, are unlimited.

Check these unique features against your most exacting needs!

- Exceptional chemical inertness—eliminating contamination of contents or corrosion of package, even by the strongest acids or alkalis.
- Grade 500 incorporates unusual radiation resistance—will withstand sterilization up to 25 megareps before becoming brittle.
- Complete impermeability—zero moisture absorption, zero moisture vapor passage.
- Extraordinary anti-sticking properties—package drains thoroughly.
- Extreme clarity—complete and lasting visibility of contents.
- Non-brittle—will not shatter.

- High tensile strength—assuring full protection of contents.
- Complete resistance to age, fungus and decay.
- Can be heat sealed, radio frequency sealed and vacuum formed.
- Extremely flexible—retains high pliability over temperature range from -65°F. to +350°F.
- Excellent electrical properties.
- Light weight—minimizes package size and weight.

Investigate film made of KEL-F tri-fluorochloroethylene polymer (a 3M chemical product) by leading film manufacturers! Contact Jersey City Chemical Division, Chemical Products Group, 3M Company, Dept. WB97, St. Paul 6, Minnesota.



Jersey City Chemical Division • Chemical Products Group  
**MINNESOTA MINING AND MANUFACTURING COMPANY**  
St. Paul 6, Minnesota



## How to stretch your shipping dollar



The high cost of shipping filled Harry with dread  
He knew that the boss would be out for his head



Harry uses his head now...he's crowned with success  
He calls economical RAILWAY EXPRESS!

## The big difference is

No use trying to stick to a shipping budget if you have to pay for "extras" like pickups, deliveries, and insurance. You just can't do it!

It's easy, though, when you ship by Railway Express! One fixed charge is all you ever pay. You get complete service that is swift and dependable, plus domestic coverage no other company can match. What's more, you can speed shipments to and from almost anywhere in the world, via Railway Express' new World Thruway Service.

So, always specify Railway Express. It's the complete rail-air-sea shipping service.





Miss Irene McGreevy, file supervisor of Cleveland Trust Company, operates the Bank's ITV copying console. The console is designed and manufactured by Diamond Power Specialty Corp., the nation's pioneer manufacturer of industrial television equipment.

## 2½ million signatures star on Cleveland Trust's TV

When a customer of the Cleveland Trust Company calls at the main office to cash a check, he receives fast service, even if he keeps his account at one of the bank's 65 branches. His signature, or any of the 2½ million other signatures on file, may be verified with the speed of light, thanks to the closed circuit television equipment recently installed by the bank.

To verify a signature, a teller calls the file department on the intercom. The signature card is inserted in the TV camera, and its image appears on monitor-receivers where needed.

This modern magic of closed cir-



President George Gund of Cleveland Trust Company shows Miss Lucy Nimtz, teller, the time-saving advantages of the ITV system for signature verification. Components of the installation were supplied through the Cleveland office of Graybar.

cuit television offers a valuable new tool to industry, institutions, transportation and utilities. In operation, closed circuit television is

simplicity itself, but in the selection and assembly of the components of a complete installation, experienced planning is essential.

There may be ways in which closed circuit television can help you to save valuable time, speed production, observe hazardous tests and inspections, and protect property to name a few. Applications are almost limitless, and a call to your nearest Graybar office will place all of our experience at your disposal. If your firm is located in the U. S. and you would like a copy of our new 64-page "Guide to Industrial TV" please write for it on your company letterhead.

750-210

Your telephone will put you in prompt contact with any one of over 130 Graybar offices. Complete catalog information and quotation service is yours for the asking, on over 100,000 electrical items for wiring, lighting, communication, power and ventilation, as well as closed circuit television.

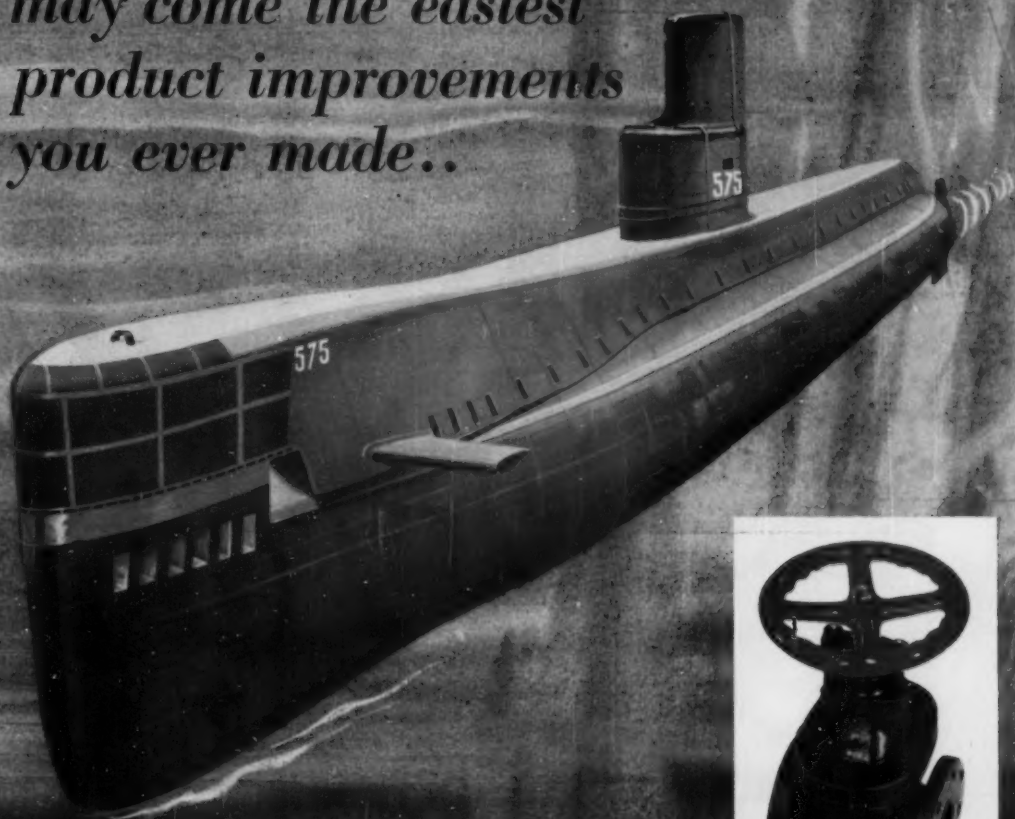
CALL **GraybaR**

FIRST FOR



GRAYBAR ELECTRIC COMPANY, INC., 420 LEXINGTON AVENUE, NEW YORK 17, NEW YORK, IN OVER 130 PRINCIPAL CITIES

*from Vinyl Plastisols  
may come the easiest  
product improvements  
you ever made..*



*they identify atomic submarine valves  
quickly, permanently!*

*Vital control wheels on board the new U. S. Navy atomic submarines are being dip-coated with a vinyl plastisol coating. Reasons: 1) quick, permanent identification through non-fading color coding; 2) resistance to salt water and other corrosive elements; 3) insulation against heat.*

*The uses for fluid vinyl plastisols continue to mount. These vinyl dispersions, when fused on metals, fabrics, or paper, become permanent finishes that can be smooth, textured, or embossed, in a wide choice of color, and as thick or hard as desired. And note: vinyl plastisols can be coated on metals before machining because even stamping won't rupture the flexible finish!*

*Molding fluid vinyl plastisols—by slash or rotational methods—produces hollow components with faithful reproduction of detail. Vinyl plastisols become permanent flexible sealants, soundproofing, foamed insulation and upholstery.*

*For the lead to the easiest product improvement you may make this year, read "The Vinyl Plastisol Story." Send for your free copy today. Monsanto Chemical Company, Plastics Division, Springfield 2, Mass.*

*Monsanto is a major supplier of Opalon® vinyl resins and Monsanto Plasticizers, on which are based many of the fine vinyl plastisols available from qualified formulators.*

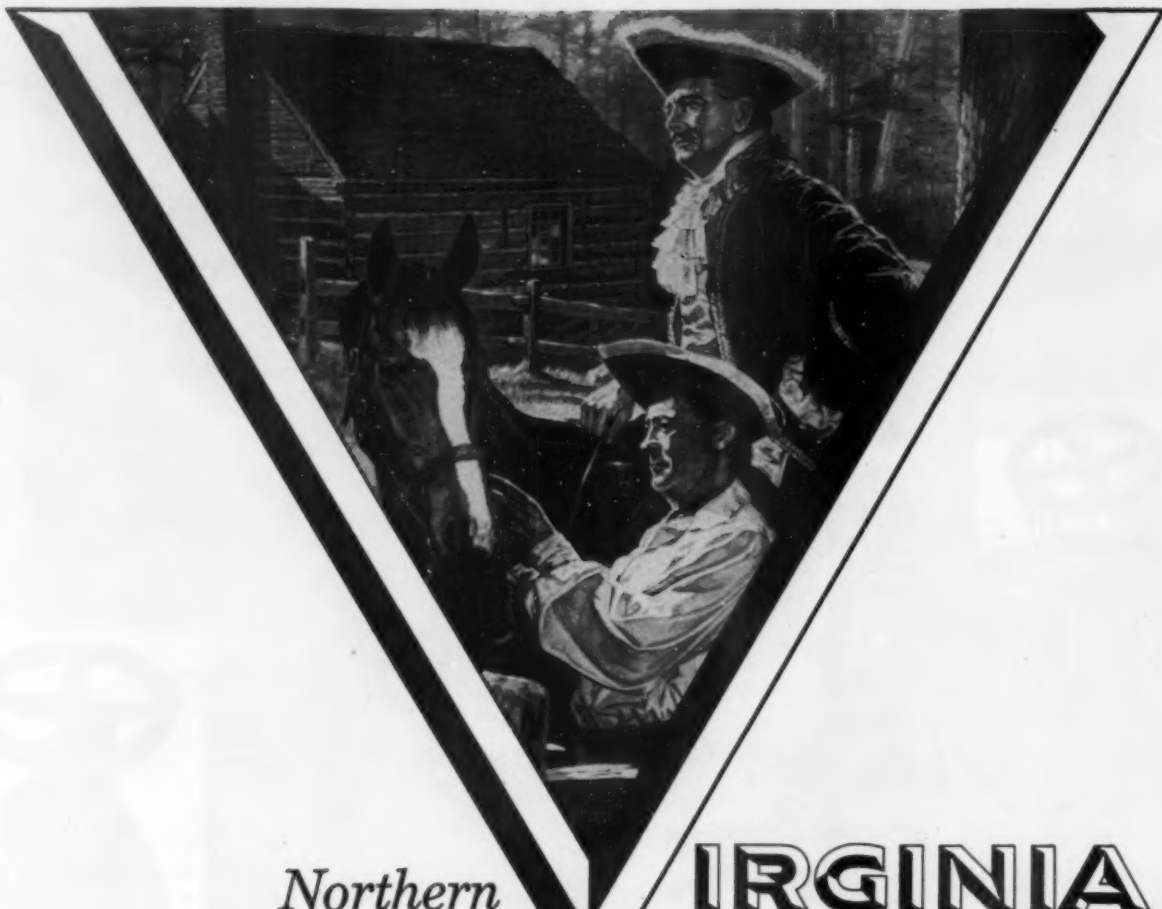
\*OPALON: REG. U.S. PAT. OFF.



Monsanto Chemical Company  
Plastics Division, Room 1482, Springfield 2, Mass.

Please send me free copy of  
"The Vinyl Plastisol Story."

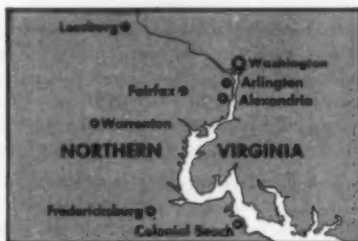
Name \_\_\_\_\_ Title \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_



*Northern* **IRGINIA**  
*A gay governor pointed the way*  
*for your new plant*

"Among ye little Mountains" or rolling hills of Northern Virginia, Governor Alexander Spotswood founded Germanna, the state's first successful iron works, in 1714. And nearby, the gay Governor later built his "enchanted castle" with its mirrored drawing rooms, where tame deer ran about as pets!

Only ruins now mark the site of Germanna. But Spotswood's enterprising spirit lives on in fast growing industries that profit from Northern Virginia's big advantages. Advantages worth having if you plan a research



laboratory, electronics plant or other light industry.

Young, educated workers—many with college or technical degrees—are plentiful here. You're close to the vast research facilities of

the Nation's capital. Besides fine rail and highway transportation, you have Washington airport, and deep tidal rivers that bring ocean shipping 150 miles inland. And a mild climate cuts construction, production costs.

Plug in your plant to the low-cost electricity of VEPCO's power network... with a capability of 1,362,000 kilowatts, due to reach 2,000,000 kilowatts by 1959. And for confidential site-finding help... or full facts on this key area, write or phone VEPCO, serving "The Top of the South."

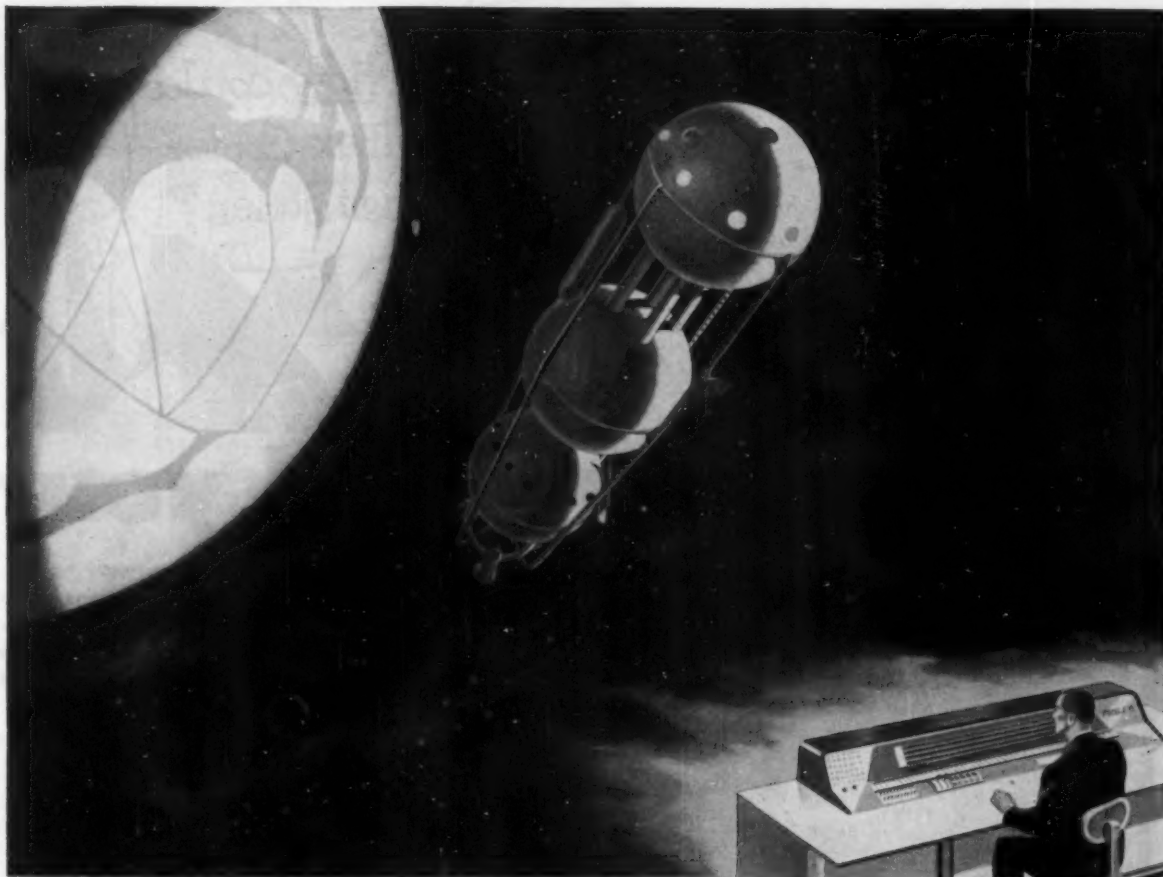
**SEE SIGHTS AND SITES!**  
 Visit Jamestown Festival, up to  
 Nov. 30, 1957... and, see some  
 of Virginia's plant sites, too!



**VIRGINIA ELECTRIC and POWER COMPANY**

Clark P. Spellman, Director—Area Development  
 Electric Building, Richmond 9, Virginia • Phone: 86-1411





## Large Scale Computers Speed Engineering and Astro-Navigational Data Processing For Coming Interplanetary Travel!

### Philco Transac\* S-2000 Computer



Here is the world's first all-transistor, large-scale integrated data processing computer. Years ahead in design and performance, it's another outstanding achievement of Philco research and engineering.

"TRANSAC"  
Trademark of Philco Corporation  
for Transistor Automatic Computer

Man's conquest of outer space is no longer an impossible dream. Data gained from this year's earth satellite experiments will be used to further man's penetration of the trackless universe.

Toward this end, the U. S. Government, Armed Services, Industry and International Science are joining forces for research and experimentation.

Modern large scale Integrated Data Processing Systems are invaluable in compiling, coordinating and analyzing the huge volumes of significant data being collected. Only through these giant

electronic "brains" can the complex calculations involved in the design, engineering, launching and navigation of space ships be accomplished with necessary speed and accuracy.

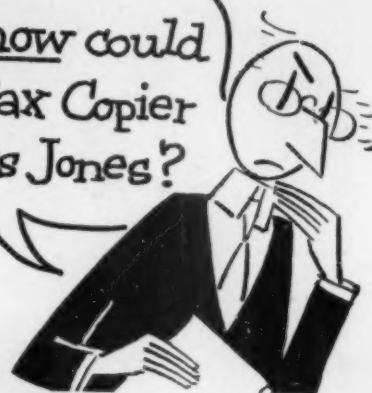
Tomorrow's interplanetary space ships are but one example of the huge data processing projects which will utilize amazing digital computers to cut engineering manhours to a fraction.

Fulfilling the nation's need for faster, more reliable and compact large-scale data processing systems, Philco is proud to present TRANSAC S-2000.

*At Philco, career opportunities are unlimited in computer, electronic and mechanical engineering. Look ahead . . . and you'll choose Philco.*

**PHILCO.** Government & Industrial Division  
Philadelphia 44, Pennsylvania

And just how could  
a Kodak Verifax Copier  
help us, Miss Jones?



# What would your

## 101 BIG PRIZES

FOR SECRETARIES • PLUS 101 PRIZES FOR BOSSES

**FIRST PRIZE for secretaries—**  
2-week, all-expense vacation for two in  
Hollywood, Miami Beach, or New York

**HOLLYWOOD**—You'll stay at the swank Beverly Hilton for two whole weeks... be spoiled by sparkling pool, superb service. Full VIP treatment awaits you at movie studios. You'll see "hits of tomorrow" filmed... lunch in commissary with stars. You'll meet Ozzie and Harriet of the Kodak TV show. Visit Disneyland, Malibu Beach, Romanoff's, Coconut Grove—wherever your pleasure calls.



**MIAMI BEACH**—Your home away from home for two whole weeks will be the fabulous Fontainebleau. You'll soak up the sun. Swim in surf or pool. Laze 'neath the palms or in private cabana. Enjoy superb cuisine, tops in entertainment. Sight-see by car to Seminole Indian Village, by boat around Biscayne Bay. Anywhere you please!

**NEW YORK**—Your address during two-week stay will be one of the proudest in the world—The Waldorf-Astoria. But you'll be everywhere: Touring Radio City; dining at "21"; seeing "My Fair Lady"; visiting the UN; gazing down from the Empire State Building; being introduced on the Kodak-sponsored Ed Sullivan Show.



### THE 100 RUNNERS-UP GET



Choice of a  
Brownie 300  
Movie Outfit



Kodak Pony  
Color Slide  
Outfit



Each winner's boss  
gets a Brownie  
Starflex Outfit

Join the cheering section—get your secretary to enter Kodak's easy "Tell the boss" contest. If she wins one of the 101 prizes, you win, too—a handsome Brownie Starflex Outfit. All she has to do is answer the question above. Nothing to buy. Nothing to try—unless you insist.

**A**SIDE from the fact that the prizes are plentiful and well worth shooting for, you and your secretary will find this contest educational. *Even revelational!*

For what boss wouldn't like to learn how he can skip hours of paper work? And what secretary wouldn't be happier with far less typing?

All of this is possible—as thousands of offices have discovered—when you have a Kodak Verifax Copier, which gives you 5 copies of anything in 1 minute for just 2½¢ each.

This completely different copier, for example, lets you answer half your mail with-

out dictation and typing—do away with those repetitive "I quote the customer" memos. How? Just use the "Verifax pencil trick." When a letter asks questions, jot the answers in the margin and mail a Verifax copy as your reply. When a report refers to several departments, jot again: "Tom: see this (paragraph)"; "Dick: check this"; "Harry: note this." A minute later your secretary will have Verifax copies on their way.

### 101 Short cuts

You'll save ten minutes here, ten minutes there all day long. And your secretary will do even better with this

## NOTHING TO BUY...SIMPLE RULES

1. You must be employed as a secretary, stenographer, or typist in the United States, or in its territories or possessions. "Girl Fridays" in "one-man" offices are eligible.

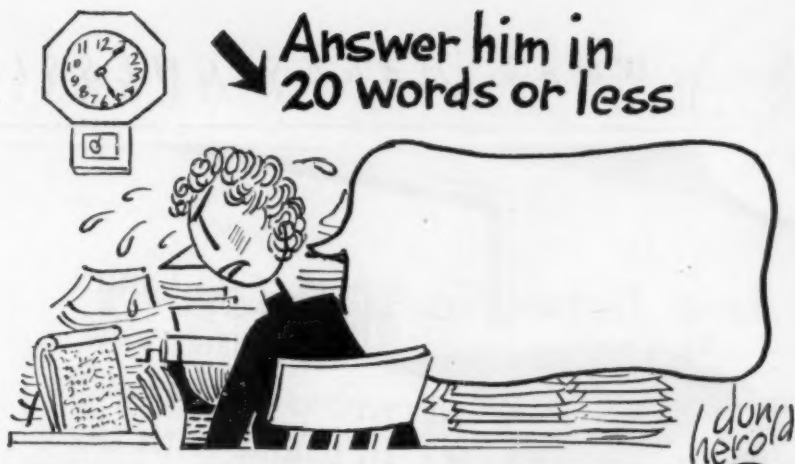
2. Just answer the boss in your own words, 20 words or less. Verifax Copying need not be mentioned.

3. Send in as many entries as you wish. Write plainly or print each entry on an official entry blank, such as the attached coupon or blanks obtained at Kodak Verifax dealers. (Check "yellow pages" under "photocopying equipment" or similar "photo" heading for address of nearest dealer.) All entries must be postmarked no later than December 1, 1957 and received no

later than December 10, 1957.

4. Entries will be judged on originality, humor, and aptness of thought by the Reuben H. Donnelley Corp. Duplicate prizes in case of ties. Judges' decision final. Entries' contents, and ideas therein become the property of Eastman Kodak Company for any and all purposes. No entries returned. All entries must be the original work of contestants and must be submitted in their own names. Employees of Eastman Kodak Company, its direct dealers, and its advertising agencies are ineligible.

5. This contest is subject to all federal, state and local regulations. Contest winners will be notified by mail. A complete list



# secretary say?

**completely different** copier that ends retyping, proof-reading and mistakes.

She'll never have to type copies of incoming reports, quotation forms, magazine articles—what have you? "All day" retyping jobs can be done in 20 minutes. And when you order three carbons—but find you need five—no harm done!

## Completely different

**Does more.** A Kodak Verifax Copier makes 5 copies in 1 minute on standard weight paper, card stock, office forms. Also makes "masters" for use in whiteprint and offset machines in 1 minute. Snap to operate, no change in room lighting.

**Costs less.** You can get one of these Verifax Copiers—the Signet model—for \$148. Actually less than the cost of an

office typewriter! Even "one-man" offices report saving its cost the first month.

**Misses nothing.** Your Verifax copies are photo-exact from top to bottom. All types of writing or printing—even purple duplicator inks—are copied as readily as typed data. And your Verifax copies will last as long as originals.

**Get your secretary to mail coupon today.** No doubt she'll have two or three good answers after reading these pages. No limit on entries. She can pick up extra entry blanks and a copy of Don Herold's amusing booklet on 101 Verifax short cuts at nearest Verifax dealer. (See "yellow pages" under "photo-copying equipment.") **Good luck to you both!**

Price shown is manufacturer's suggested price and subject to change without notice.

**VERIFAX  
SIGNET  
COPIER... only  
\$148**



of winners will be mailed approximately eight weeks after close of contest to any person who requests it and sends a stamped, self-addressed envelope to Eastman Kodak Company, Box 114, Mt. Vernon, N.Y.

**6. 100 runner-up prizes.** Each runner-up winner can choose either of these prizes:

1) **Kodak Pony Color Slide Outfit**, which includes the capable Kodak Pony Camera to make your slides... and the efficient Kodak 300 Projector with Readymatic Changer to show them.

2) **Brownie 300 Movie Outfit**, which includes the Brownie Movie Camera with f/2.3 lens and the Brownie 300 Movie Projector with built-in preview screen.

**MAIL COUPON TODAY.** Get extra blanks from your Verifax dealer. Contest closes Dec. 1, 1957.

**EASTMAN KODAK COMPANY, Box 115, Mt. Vernon 10, N. Y. 21-10**

Gentlemen: I'd tell my boss: \_\_\_\_\_

(answer in 20 words or less)

Name \_\_\_\_\_

I'm employed by \_\_\_\_\_ (Name of Company)

Company's address \_\_\_\_\_ (street) (city) (state)

Boss's name \_\_\_\_\_

Please check: Does your office have a copying machine? Yes ☐ No ☐

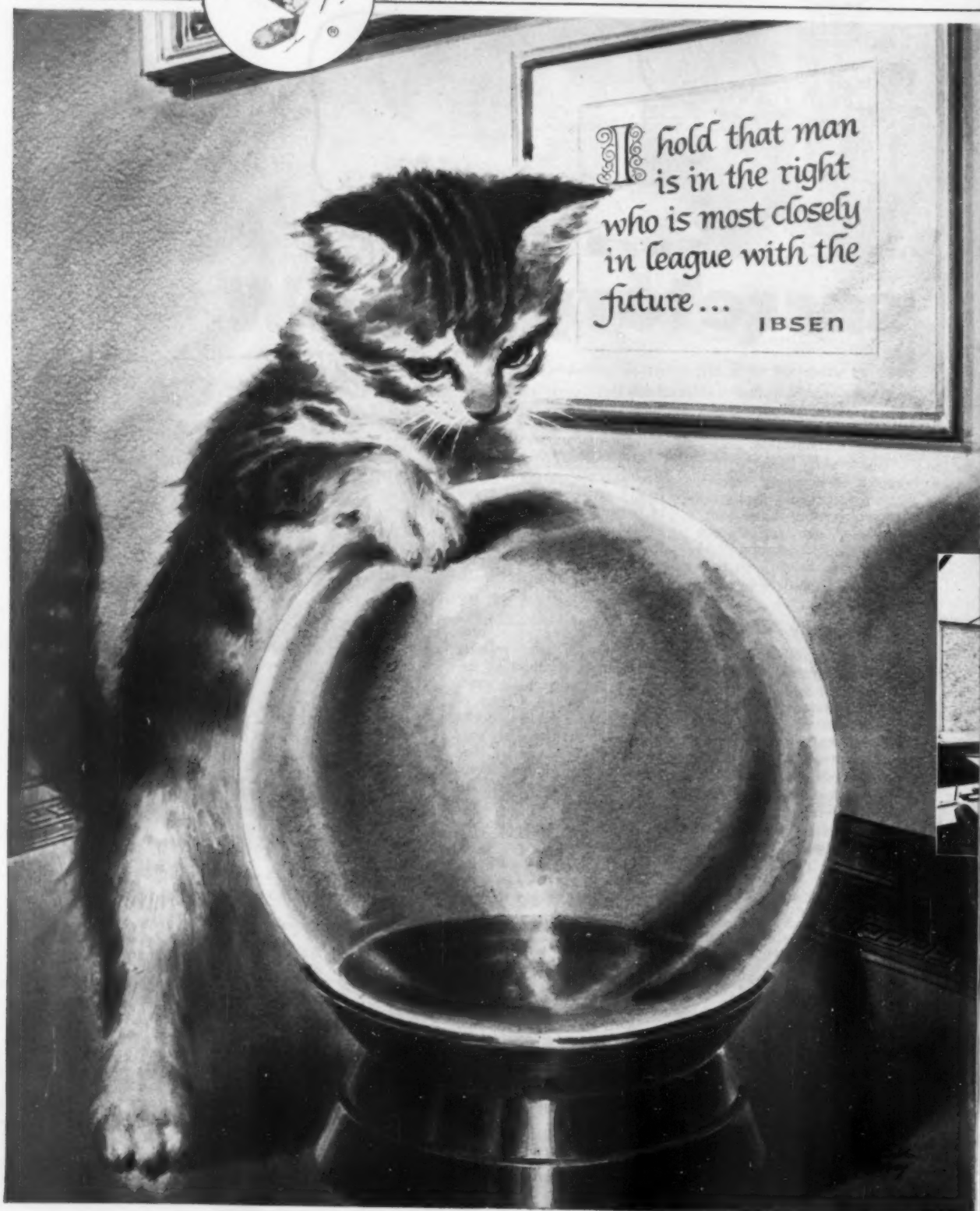
If so, what kind? \_\_\_\_\_



**Kodak**  
VERIFAX



## WHAT MAKES CHESSIE'S





# RAILROAD GROW? *One of a series telling what Chesapeake and Ohio is doing to make this a bigger, better railroad.*

## Chessie's crystal ball

Everybody is interested in looking into the future. In the modern business world it is not only a matter of interest, but an economic necessity.

Long-range planning is particularly important to Chesapeake and Ohio. You don't build piers, yards, and bridges overnight. You can't pick up cars and locomotives at the hardware store. These things have to be planned and ordered years in advance.

For example, the increasing volume of coal exported through the port of Newport News has been possible because plans and decisions were made more than two years ago to enlarge C & O's coal handling

facilities there. This year, more than 23,000,000 tons of export coal will move through this port, establishing an all-time record.

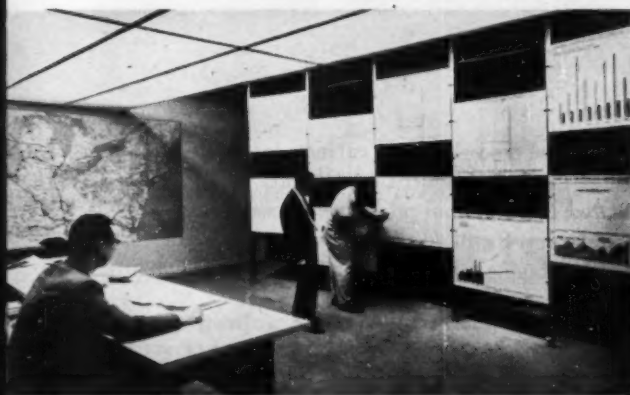
Another shipping record is in prospect this year at Toledo where Great Lakes vessels will load about 17,000,000 tons at Chesapeake and Ohio's three coal piers. Keeping "in league with the future", C & O has just started another huge pier there to handle the growing lake coal movement.

When the charts first pointed to an upward trend in ore imports, C & O blueprinted a bulk cargo pier with an eight million ton annual capacity. This new facility at Newport News has just begun operation.

By charting trends in the great industries it serves — automobile, chemical, steel, construction, glass, paper, coal and many others—Chesapeake and Ohio anticipates their needs and provides them with the freight cars, locomotives, signal systems, tracks and yard facilities needed for the best in transportation service.

It is this same habit of thinking ahead that made C & O the first railroad to install a large scale electronic computer system. First with a system-wide, all-teletype Car Location Information Center — CLIC for short. First with the electronic hot box detector.

Thinking in tune with the future is one of the things that keeps Chessie's railroad growing and going.

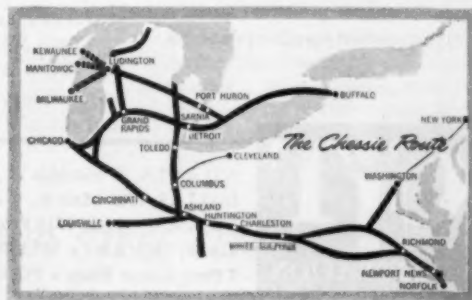


*This chart room in C&O's headquarters, called the "financial weather bureau," records daily, weekly, monthly and yearly accomplishments and projects future trends for management planning.*

Would you like a Chessie portfolio of pictures — Chessie, Chessie's family, and Peake, Chessie's Old Man? Write to:

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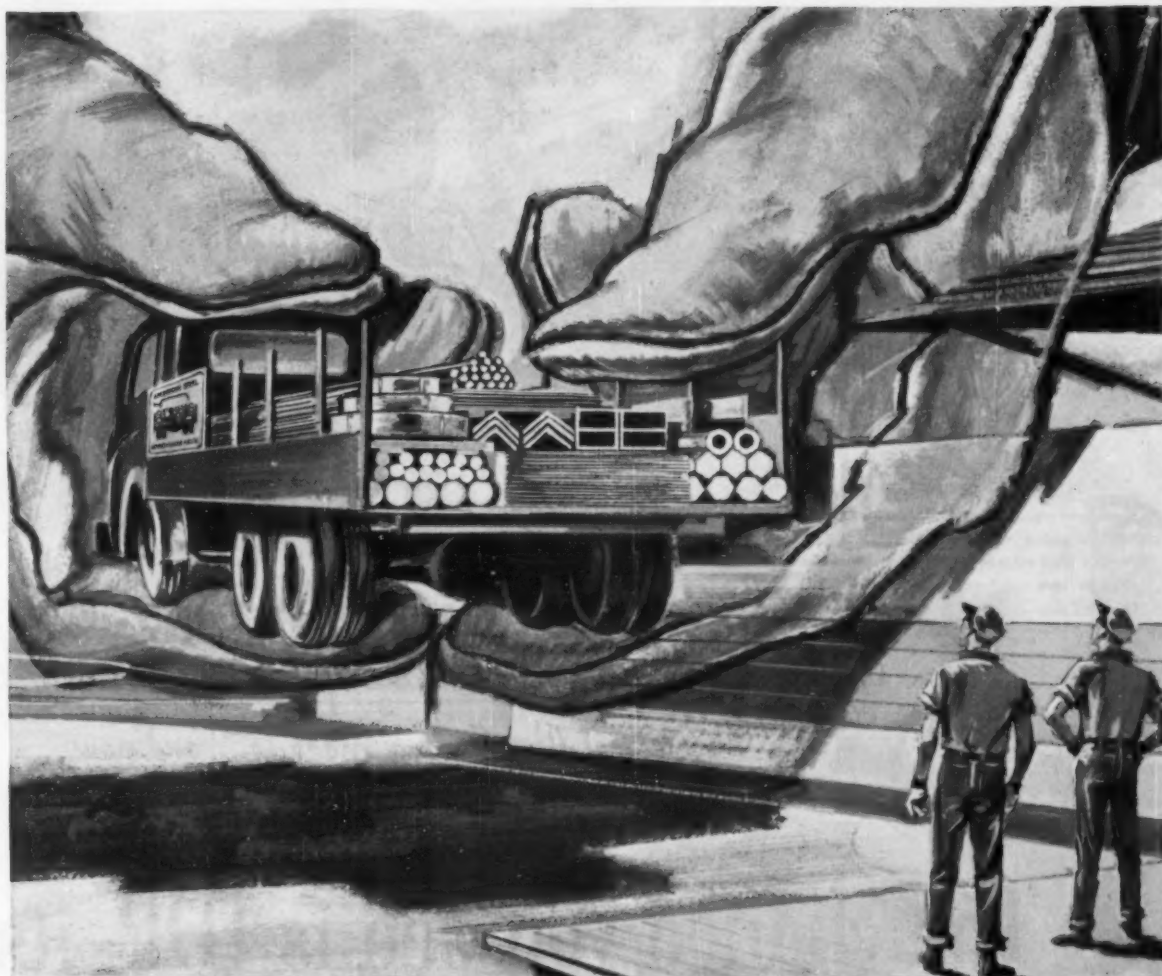
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**Friden** *brings you an automatic office*



ROCHESTER, N. Y., SUBSIDIARY





## Friden Add-Punch®

is the 10-key adding and listing machine with tape punch mechanism. A key IDP unit, the Add-Punch "writes" punched tape while printing on adding machine tape. The punched tape can be interpreted by other similarly-equipped machines. Typical Add-Punch functions include recording of retail sales, sales audit, production and inventory control, and coding statistical data.



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Power-Up — how you can use your electrical power more efficiently for more profitable results.

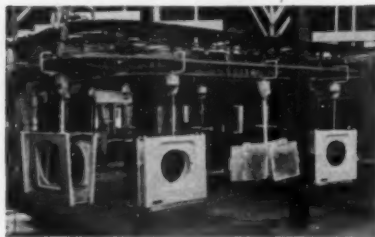
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This is the 1958 Model General Electric Filter Flo® washer and matching dryer, manufactured by Home Laundry Dept., General Electric Major Appliance Division, Louisville, Kentucky.



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**GENERAL ELECTRIC MAJOR APPLIANCE DIVISION** uses one of the largest conveyor systems in the world in its Home Laundry Department. This 15-mile long system does double duty: stores and routes parts to specific assembly points. Its efficiency depends to a great extent on thousands of anti-friction bearings. Through Texaco Engineering Service in helping G.E. plan a program of lubricant simplification and application a reduction in grease inventory and minimum maintenance costs has been effected.

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# TEXACO

## INDUSTRIAL LUBRICANTS



# BUSINESS OUTLOOK

BUSINESS WEEK

OCT. 12, 1957



Don't close the book on your 1958 forecasts. No matter how carefully you have weighed business prospects, you have to cross your fingers.

This first began to be apparent when Russia claimed the successful firing of an intercontinental missile. It became all the more so with the launching of the earth satellite (page 39).

The obvious guess is that government spending will exceed recent estimates. But by what amount remains the X in the equation.

Prospects of a tax cut—particularly one calculated to bolster consumer spending—must be dimmed by a major shift in government outlays. Cuts in federal spending now threaten reduction in mass buying power—possibly cumulative in effect. But this trend could quickly be reversed.

Then a tax-cut stimulant might not be necessary—or even desirable.

—•—

Construction shows a little more vigor as the year wears along.

The value of all work put in place last month, according to the preliminary estimate by the Commerce and Labor Depts., exceeded a year ago by 4%. That's the first gain of better than 3% since January.

And, considering cost increases, when the gain gets to 4% it means physical volume is about as large as a year ago or maybe a bit bigger.

New value-of-construction records are too commonplace really to be news. July and August, peak months for any building season, thus have dutifully weighed in with new highs.

July barely missed a dollar outlay of \$4.6-billion. August exceeded that figure by a modest margin.

Variations within the various sectors of construction are perhaps more interesting at the present time than the total's record level.

Throughout this year, the impressive gains have been in the realm of public works. And this is still the case, publicly financed projects being 13% ahead of 1956 in September and 12% for the nine months.

But it is also true that private spending on construction apparently nosed ahead last month, ending a six-month stretch of small losses.

Figures on new residential building finally are beginning to look not quite so gloomy (mainly because we had got down to a pretty low level a year ago). September, for example, ran only 8% behind the same 1956 month; for the first half of the year, the drop had averaged out to 12%.

Business spending on new structures this year won't be much different from last. But there are sharp shifts among the components:

- Office buildings and warehouses will be up by 10% to 12%—probably about \$175-million ahead of last year.
- Factory building will probably go just over \$3-billion, equaling last year's figure. But 1957's second half will be 5% behind, for this type of building set a mark in last-half 1956 that isn't easily matched.
- Stores, restaurants, garages, etc. (which almost reached \$2-billion last year) will run behind by nearly \$250-million.

# BUSINESS OUTLOOK (Continued)

BUSINESS WEEK

OCT. 12, 1957

If you wanted to pick a single reason why construction did a little better than seasonally in September, you probably would choose highways.

Held back somewhat by cement shortages earlier in the year, road work last month apparently pushed \$20-million ahead even of August's high figure of almost \$600-million. The year-to-year gain widened to 13%.

Highway work now is reckoned at a value of more than \$3.7-billion for the nine months against not quite \$3.4-billion in the same 1956 period. It should come very close to \$5-billion for the full year.

—●—

New orders may not have been anything to shout about, but manufacturers of durable goods still are holding shipments at a very high level.

The average rate for the last several months has been around \$14¼-billion, about \$750-million a month over the same period last year. And, with a 5½% improvement dollar-wise, there must have been at least a moderate gain in actual physical volume.

Relatively stable output and shipments have been possible, of course, because hardgoods manufacturers had, and still have, such a huge backlog of unfilled orders. But this gradually is running off. From the peak \$61-billion-plus at the turn of the year, unfilled orders had fallen below \$55-billion by the start of September.

That's the measure of the amount by which shipments to customers outran the value of new business salesmen were bringing in.

**Inventories are performing in their usual glacial fashion.**

The fact is that there's no crying necessity to reduce them so long as (1) there aren't any major price slides to cause inventory losses, and (2) the volume of shipments holds at or near its highs.

Those two critical conditions have been right so far this year.

But, even though pressures to liquidate inventories haven't been extreme, some signs of the long-rumored move finally are showing up.

From May through August, manufacturers of durable goods pared the value of their stocks by about \$600-million.

It may be no more than coincidental, but this decline started after the backlog of unfilled orders had been running down for about six months—and the size of the inventory cut about matches the one in 1954's first quarter. (But in 1954, the order backlog had been sliding for a year.)

—●—

Best figures available indicate there are a lot of people who aren't too worried about the prospects of making money in business.

In any event, there have been almost exactly ten times as many new incorporations across the country in recent months as failures.

—●—

Look for the new 1958 cars to list between 2% and 4% higher than the comparable 1957 models. Sharp-pencil boys in Detroit figure that 2½% is the margin at which Edsels are selling over comparable and competitive cars, and they're willing to bet that's mighty close to the average.



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1958 Owens Flagship  
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# OWENS FLAGSHIPS

\*Delivered U.S.A. State and local taxes extra.



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This new cap seal for capsules is a cushiony, air-tight ribbon of sealing compound. Flowed in place as a liquid, the compound is quickly heat-cured to form an integral bond *with the cap itself*.

Dewey and Almy and the Hazel-Atlas Glass Division of Continental Can Company worked with Lederle Laboratories Division, American Cyanamid

Company, to "prove-out" this vital protection in tests that spanned a full year. Both the company *and* the consumer are assured of a product that lastingly lives up to the promise on the label.

This is but one of the widely diversified uses for the remarkable DAREX "Flowed-in" Gasketing Process. It now seals more than 50 BILLION containers of all kinds each year . . . and has many new applications in the automotive and electronics fields as well.

The process is offered as a complete "package": the sealing compound, the equipment, the technical service . . . to help industry deliver *better* products. Perhaps it has a place in *your* plant.



**DAREX** *Flowed-in* **GASKETS**

THE STREAM-LINED SEAL OF MODERN INDUSTRY

**DA**  
**DEWEY AND ALMY**  
CHEMICAL COMPANY  
DIVISION OF W. R. GRACE & CO.

Cambridge 40, Massachusetts • Chicago 38, Illinois • San Leandro, California • Montreal 32, Canada

## Russia Takes Lead in Missiles

- The Soviet satellite demonstrated they are further ahead on intercontinental missiles than anyone suspected.
- They clearly have a workable ICBM at a time when the U. S. still does not have one.
- In coming weeks, this stark fact will make changes in scientific research, in defense policy, in international affairs.

IN THE EARLY DAWN of Oct. 5, somewhere east of the Ural Mountains, smoke enveloped the base of a monster rocket; the monster shook the ground with its thunder, climbed painfully into the air, and then shot skyward with a tail of flame. Something like 10 minutes later the first artificial satellite—"Sputnik" to its Russian makers—was circling the earth.

• **Meanings**—In the long view of history, that event may well be remembered simply as a great human achievement, as the beginning of an era of exploration and maybe colonization out among the stars. But on the tense, heavily armed earth above which Sputnik circles, it has more immediate, more urgent, more ominous meanings.

First of all, it changed the world's picture of Russian technology and military strength. It took only a little analysis to show that in the course of setting up their satellite, the Russians had revealed a clear lead over the United States in the development of long-range high-speed missiles.

That fact, in turn, is shaking the prestige of the United States throughout the Western world (page 149). It is raising real questions in the minds of the NATO nations, threatens to produce a new wave of neutralism.

• **Changed Issues**—The new military balance has once more shifted the factors in the slow, complex negotiations aimed at easing the world's tensions. There is talk of new international meetings, of new arms control moves on satellites and long-range missiles—although the chances of arms control actually look more remote. At least one vexed issue, mutual aerial inspection, seems dead—since Russia certainly—and doubtless this country soon—will be able to put television eyes in the sky to inspect the whole world, treaties or no.

In Washington, the U.S. government began to re-examine its military policies. First official public reactions are that few changes are indicated. First significant change seems sure to be a simplification of the complex administrative organization of missile development. And pressures are building up that cannot help but result in further major changes.

Behind all this are the startling facts on the Russian achievement.

### I. What Sputnik Means

The Russians have released only a few facts about their artificial satellite and about how they got it into its orbit. Most of these facts are tabulated on page 40. But to the expert eye, these are enough to reveal a great deal. For the past week U.S. rocket and missile men in and out of government have been analyzing the facts. Talking to them, BUSINESS WEEK reporters find pretty general agreement on the conclusions that can be drawn.

Key conclusion: Sputnik and its propulsion system, taken together, constitute a first-class intercontinental missile—plus trimmings. On its record, it should be capable of delivering a hydrogen warhead from its launching pad to any other spot on earth, and with considerable accuracy. It is definitely a more advanced missile than anything the United States has yet fired. It is almost certainly a more advanced weapon than this country's Atlas ICBM—which has had two unsuccessful tests to date—and even after the bugs in the Atlas have been worked out. It is probably more advanced than the Titan, which is coming along behind the Atlas.

• **Reasoning**—Start with the satellite ball itself. It weighs 184 lb.—nine times the weight of the satellite that

the U.S. expects to put up in Project Vanguard. The weight of a hydrogen warhead is, of course, secret, but it probably is somewhere in this same range. Certainly, if the weights of the third stage rocket and nose cone, which are also in orbit, are taken into account, it is clear that the Russian rocket has the potentials of a weapon as well as a research device. For the third stage would not be needed in a missile: Its only purpose is to give Sputnik the extra speed needed to make it a satellite in a permanent orbit rather than a missile able to reach halfway around the earth.

Sputnik's weight also tells a lot about the size of the rocket that pushed it into the sky. The nature of rocketry is such that, assuming roughly equivalent fuels, there is a definite mathematical relation (called the mass-ratio) between the fueled-up starting weight and the payload that can be brought up to a given speed. For current fuels and for the 5-mi. per sec. speed of an orbiting satellite, the ratio is about 1,000 to 1. So Sputnik's vehicle, ready to fly, probably weighed something like 100 tons—about the same as the U.S. Atlas.

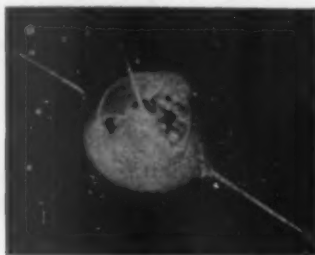
Almost certainly, the Russians got their satellite up by mounting a small third stage rocket on the nose of a military ICBM. The ICBM got up to altitude, and then the third stage provided the extra 1.5 mi. per sec. of velocity that was needed to keep Sputnik up there.

• **Fuel**—U.S. analysts draw a disturbing conclusion from the announced performance of the first stage of the Russian rocket: The Russians are able to use better fuels than the U.S. yet can.

The first stage rocket, the Russians say, accelerated to a speed of 4,650 mph. in only 120 sec. The liquid fuels now used in large U.S. rockets are not capable of accelerating a multi-ton vehicle that rapidly. So-called "exotic fuels" that are now getting laboratory tests (BW—Jul.20'57,p72) should theoretically be capable of such performance. But in this country such fuels are not available in quantity. We do not yet have engines capable of utilizing them.

• **Guidance**—The conclusions about the fuel rest, of course, on unconfirmed

## The Satellites' Statistics



**Russia's Sputnik**



**U.S.'s Vanguard**

In its orbit since last Friday.	<i>Status</i>	Launching scheduled for next year.
22.8 in.	<i>Diameter</i>	22.5 in.
184 lb.	<i>Weight</i>	21.5 lb.
Aluminum; thickness unknown.	<i>Satellite Shell</i>	Gold-plated magnesium; .025 in. thick.
400 mi.	<i>Average Altitude</i>	300 mi.
Ranges from 65 deg. North of Equator to 65 deg. South. Makes circuit of earth every 96 min.	<i>Satellite Orbit</i>	Scheduled to range from 30 deg. North of Equator to 30 deg. South. Should circle earth once every 90 min.
Three-stage rocket; length and diameter unknown; weight, possibly more than 100 tons.	<i>Rocket Vehicle</i>	Three-stage rocket; 72 ft. long, 45 in. in diameter; weight, about 11 tons.
At end of first stage: 4,650 mph.	<i>Rocket Velocity</i>	At end of first stage: 3,700 mph.
At end of second stage: 12,400 mph.		At end of second stage: 9,000 mph.
At end of third stage: 17,896 mph.		At end of third stage: 18,000 mph.
It's unknown when Sputnik's rocket tilted from vertical.	<i>Rocket Flight Time and Range</i>	Rocket will tilt off vertical 10 sec. after it's fired. By then it should be 1 mi. high.
First stage drove rocket up for 120 sec.—to unknown height, unknown range from launching site.		First stage will take it 35 mi. high, to point 275 mi. from launching site, in 140 sec.
Second stage pushed rocket to point 625 mi. from launching site—but altitude and flight time aren't known.		Second stage will push it to 130 mi. high at point 1,550 mi. from launching site in 110 sec.
Third stage accelerated from 12,400 mph. to 17,896 mph., but time is unknown.		Third stage will accelerate from 9,000 mph. to 18,000 mph. in 350 sec.

Russian announcements. But the facts about Sputnik's orbit are there for everyone to see—and these facts indicate that the Russians used a guidance system in their rocket that is at least as good and perhaps better than anything the U.S. has.

For a satellite, there are good orbits and bad orbits. A nearly circular orbit, in which the satellite stays at a constant altitude, is best; it keeps the ball away from the atmosphere and thus permits it to stay aloft longer.

Sputnik is in something very close to an optimum orbit, much closer than is likely by accident. That it was no accident is confirmed by the ability of the Russians to predict an orbit without waiting for elaborate observations.

The U.S. Vanguard will have a simple guidance system designed just to keep it heading in the right general direction. Vanguard scientists say they won't know the orbit until they have tracked a few circuits. The Russian accomplishment calls for a guidance system of the same sort that would be required to put an ICBM on target within a mile or two.

• **The Backup**—Less specific but perhaps equally important among Sputnik's implications is this: A device such as the Russians have achieved is not an isolated piece of hardware. It demonstrates high scientific achievement in areas of great military and industrial importance. It demonstrates the ability of the Russian industrial system to produce big, delicate, precise, advanced equipment and materials of all sorts.

### II. How the U.S. Reacted

By midweek, Washington had had five days to digest the news of the Russian achievement and begin reacting to it. But for all the spate of comment, one thing is clear: There's no visible sign that anyone yet has ordered a fast change in the nation's military economy program.

However, Pres. Eisenhower said at his Wednesday press conference that this country is still going ahead on ICBM work with top priority. On the whole missile program, the President said he wishes we were further ahead and knew more about such problems as corrosion and heat resistance of metals that go into the weapons. Although he didn't say he was satisfied with progress to date, he did say he could not point to unnecessary delay.

Later that day, the new Secy. of Defense, Neil McElroy, said the Pentagon is giving serious consideration to stepping up this country's missile program.

The Administration's economy ax has had a direct effect on the ballistic missile program. Just over a month ago funds were slashed for the Air Force's



Titan ICBM and the Navy's Polaris IRBM.

• **More Cutbacks**—The economy program has had an indirect effect on missile building, too. For the last six months a steady stream of contract restrictions has flowed out from the Pentagon to defense suppliers, directing them to cut overtime, payroll costs, and so on. Outgoing Defense Secy. Wilson announced the latest—and one of the sternest—of these directives only two days before the Russians shot their Sputnik into its orbit. His order puts strict ceilings on monthly payments made to the Air Force's major contractors, probably cuts those payments 20%, and leaves the contractors to seek from banks the extra operating cash they'll need.

The Pentagon says neither this order nor any of the other contract restrictions has affected plants at work on ballistic missiles. Technically, this is so. But out in the contractors' executive offices, the flood of directives has produced no atmosphere of urgency about any of the defense work they're handling. From a fast increasing number of defense suppliers come criticisms that the Pentagon is slow in paying up, that it's haggling more and more over contract terms agreed on in the past, that the flood of directives it issues slows every phase of a supplier's work. "I'm fed up working with those eagle scouts," says one contractor, echoing scores of others.

The fault in the U.S. program, they say, lies less with the money that's available, more with the management of the way it's spent.

Today, the Defense Dept. is spending close to \$3-billion a year on missiles. At least half of this goes for long-range missiles (chart, page 41). The total is about \$400-million more than was spent on missiles last year, almost \$1.5-billion more than in 1955.

Whether more could rapidly—and profitably—be spent is doubtful. Just about all the Pentagon's critics are sure it couldn't—without a major reorganization of the whole management structure of the missile program.

• **Missile Setup**—The missile organization inside the Pentagon follows no logical scheme. Dozens of "coordinating levels" parallel each other, frequently stumble over one another.

The Defense Secretary's Special Assistant for Guided Missiles, William M. Holaday, coordinates work on ballistic missiles with ranges greater than the Army's Redstone (about 200 miles). The Assistant Secretary for Research & Development, Paul D. Foote, coordinates work on all other missiles.

The coordinators don't have the only say. Each service secretary can object to their recommendations. They often

have, and they've often won the argument. For instance, the only reason funds are still going into the Army's Jupiter rocket is that Army Secy. Brucker fought the coordinators' recommendations that it be dropped.

Progress reports on each missile's development are supposed to go through the coordinators up to the Defense Secretary. But most of these have gone direct from the missile developers in each service to the service secretaries, who have sometimes shared the reports with the coordinators—and sometimes haven't.

• **Pleas for Reform**—For more than a year there have been strong demands that this unwieldy organization be dumped. Early last year, Trevor Gardner quit his post of Assistant Air Force Secretary for Research & Development with the warning that Russia was ahead of the U.S. in long-range missile development and that "there never was and never will be a 'special assistant' who could get all these committees and subcommittees to . . . act in unison." It was soon after this that the office of the Special Assistant for Guided Missiles was established.

"Only a few weeks ago," says one Pentagon officer, "Defense Secy. Wilson contemplated setting up a single agency inside the department to take over control of all work on ICBMs, IRBMs, and anti-missile missiles."

"But," he added, "he was persuaded not to by military officers who claimed the single agency would interfere with service efforts."

This week, the most frequent cry from missile scientists is: "The Russians beat us with their satellite because our whole missile program just hasn't been managed."

• **One Agency?**—Now the demand is for "another Manhattan Project" to handle the whole missile program. Since Russia's weekend demonstration of its superiority in long-range missiles, at least one high-placed Defense Dept. official has said: "There's a real possibility now that a common agency of execution—as opposed to one with only staff responsibilities—will be set up to assemble all our missile capabilities under one roof."

Such an agency would clearly have about as much authority and responsibility as the Atomic Energy Commission.

• **Political Reaction**—Whatever steps the Administration may take to revamp missile management, Democrats in Congress have a ready target for attacks on military policy (page 55).

Almost as soon as Russia's satellite started beeping its way around its orbit, Democrats leaped in to charge the Ad-

## Missiles In Our Military Arsenal

**W**HEN RUSSIA launched its baby moon, Sputnik, the missile race took on ominous overtones. It seems clear that the Soviet Union has gained a lead in developing long-range weapons.

How far is the U.S. lagging? Even just a bit, of course, could be fatal. But Pentagon officials—perhaps whispering in the dark—still maintain that the U.S. has a missiles family of short- and long-range weapons unequaled anywhere.

On the next page, you'll find that missiles family, an up-to-the-minute reading of their range and other characteristics. Omitted from the list are research missiles, such as the X-17, and a number of projects too fresh from scientific minds to be definite about—such devices as the Bull Goose and Green Quail, whose mission will be to abort—or divert—enemy missiles. On page 44, you'll find the details of a separate category of missiles—the pilotless bombers, or winged missiles.

Here's a key to follow when reading the chart:

**Guidance.** Homing-passive: Tracks down moving aircraft through sound, light, heat, or radio waves emitted by target.

Homing-active: Tracks its target by emitting some form of energy waves, such as infrared or radar.

Beam riding: Follows ground-directed beam.

Command radar: Steered from ground by radio signals, tracked by radar.

Inertial: Steers by self-contained sensing device.

Celestial: Steers by sighting on stars.

**Status.** Operational: In hands of troops.

In production: Volume production, but not yet in use.

R & D: Research and development stage.

**Speeds.** Mach 1 is the speed of sound, Mach 2 twice that, and so on.

(Turn to page 44)

# Missiles In Our Military Arsenal

Name	Mission	Range	Propellant	Guidance
<b>DART</b>	anti-tank weapon	2 mi.	smokeless solid fuel	wire guidance
<b>SIDEWINDER</b>	air-to-air anti-aircraft	2-6 mi.	solid fuel	infrared homing
<b>BULLPUP</b> (test vehicle for Bulldog)	aerial attack on small targets	3 mi.	solid fuel	
<b>SPARROW SERIES</b>	air-to-air anti-aircraft	5-8 mi.	solid fuel	beam rider, homing radar
<b>LACROSSE</b>	close combat artillery support	8 mi.	solid fuel	command system
<b>FALCON SERIES</b>	air-to-air anti-aircraft	5-10 mi.	solid fuel	radar homing; new model has infrared
<b>TERRIER I</b>	ship launched anti- aircraft missile	10 mi.	solid fuel	beam rider
<b>HAWK</b>	anti-aircraft for field defense against low-flying planes	15 mi.	solid fuel	radar homing
<b>LITTLE JOHN</b>	artillery weapon	15 mi.	solid fuel	unguided
<b>TERRIER II</b>	ship launched anti- aircraft	15-20 mi.	liquid fuel	radar homing
<b>TARTAR</b>	destroyer launched anti- aircraft	20 mi.	solid fuel	beam riding
<b>HONEST JOHN</b>	artillery weapon	20 mi.	solid fuel	unguided
<b>NIKE AJAX</b>	anti-aircraft, point defense	20-25 mi.	liquid fuel	radar, beam rider
<b>TALOS</b>	cruiser launched anti- aircraft	25-35 mi.	solid fuel, ramjet engine	beam rider, switches to semi-active homing system for attack
<b>GENIE</b> (formerly Ding Dong)	air-to-air missile	30 mi.	solid fuel	unguided
<b>SERGEANT</b>	surface-to-surface artillery weapon	50 mi.	solid fuel	unguided
<b>PETREL</b> (no longer in production)	aerial attack on surface or underwater craft	50-65 mi.		radar homing
<b>NIKE HERCULES</b>	anti-aircraft	75 mi.	solid fuel	command radar
<b>CORPORAL</b>	artillery weapon	75 mi.	liquid fuel	command radar
<b>RASCAL</b>	aerial bombardment	100 mi.	3 Bell engines, liquid fuel	inertial, command radar
<b>NIKE ZEUS</b>	aircraft interceptor	100-200 mi.	liquid fuel	radar
<b>WIZARD</b>	aircraft interceptor	100-200 mi.		
<b>REDSTONE</b>	long range artillery	200 mi.	liquid fuel	inertial
<b>WS-131</b>	aerial bombardment	200-300 mi.		
<b>SEVERAL TOP SECRET PROJECTS</b>	aerial bombardment	500 mi.		
<b>POLARIS</b>	ship launched IRBM	1,500 mi.	solid fuel	inertial, switches to celestial
<b>JUPITER</b>	strategic bombardment, IRBM	1,500 mi.	liquid fuel	inertial
<b>THOR</b>	strategic bombardment, IRBM	1,500 mi.	liquid fuel	inertial
<b>ATLAS</b>	ICBM	5,500 mi.	liquid fuel, with 2 boosters	inertial
<b>TITAN</b>	ICBM	5,500 mi.	liquid fuel	inertial

Other Characteristics	Status	Service	Major Contractors
5 ft. long	in production	Army	Curtiss-Wright, Wagner, Grand Central Rocket
9 ft. long, 155 lb.	operational	Navy	Philco, GE
11 ft. long	R&D	Air Force	Martin
12 ft. long, 310 lb.; Mach 2.5	operational in production	Navy	Douglas, Aerojet, Raytheon, Sperry
launched from standard Army trucks	in production	Army	Martin, Thiokol, Federal Mfg.
6 ft. long, 110 lb.; Mach 2.5	operational	Air Force	Hughes, Thiokol
13 ft. long, 1,000 lb.; Mach 2	operational	Navy	Hercules Powder, Convair, Kellogg, Reeves
	in production	Army	Raytheon, Northrop
12 ft. long; air transportable	in production	Army	Emerson Electric, Douglas
Mach 2.5	operational	Navy	Convair, Sperry
smaller than Terrier I	in production	Navy	Convair
6,000 lb., 27 ft long; tugged by Army truck	operational	Army	Douglas, Hercules Powder
20 ft. long; Mach 2	operational	Army	Douglas, Western Electric, Aerojet, Bell
Mach 3.5-4	in production	Navy	Bendix, McDonnell
	in production	Air Force	Douglas, Hughes, North American
20 ft. long	in production	Army	Redstone Arsenal team, Sperry
launched by patrol planes	operational	Navy	Fairchild
carries nuclear warhead; Mach 3	operational next year	Army	Western Electric, Douglas
fires nuclear warhead 6 times the range of .280-mm. atomic cannon	operational	Army	Firestone, Ryan, Gilfillan, JPL
to be launched from B-47 medium bomber; 35 ft. long, 13,000 lb.	in production	Air Force	Bell, Federal Telephone & Radio
	initial design stage	Army	Douglas, Bell Labs (Lockheed, Raytheon developing a similar interceptor)
	initial design stage	Air Force	Convair, RCA
60 ft. long	in production	Army	Chrysler, North American, Sperry Rand's Ford Instrument Div.
comparable to Rascal; to be launched from B-52	R&D	Air Force	North American
to be launched from B-58 supersonic bomber	R&D	Air Force	
48 ft. long, 8 in. in dia., multiple exhaust nozzles	R&D	Navy	Lockheed, Aerojet, Westinghouse, GE
135,000 lb. thrust; carries thermonuclear warhead	flight tests under way	Army	Chrysler, North American, Ford Instrument Div.
possibly a 2,000 lb. warhead; Mach 10	limited production for testing	Air Force	Douglas, GE, North American, GM-AC Sparkplug Div.
thrust in excess of 300,000 lb.; blunt nose cone	limited production for testing	Air Force	Convair, GE, North American, Burroughs
two-stage weapon; more accurate than Atlas	R&D	Air Force	Martin, Avco, Aerojet, Arma, Bell Labs



# Missiles In Our Military Arsenal

## The Pilotless Bombers— or Winged Missiles

**I**N A SEPARATE category are the aerodynamic—or winged—missiles, so called because when airborne they employ wings to provide lift. Essentially, these missiles are pilotless bombers. And when more advanced missiles with greater speed and heavier punch are developed, the pilotless bombers will probably become obsolete. Now, however, they're a vital part of the U.S. weapons team. Here's a brief sketch of the four winged missiles:

**Bomarc:** This Air Force anti-aircraft missile planned for area defense is in production. Its range is 250 mi.; its powerplant, a liquid fuel rocket plus two ramjet engines; its guidance, command radar. Bomarc is 47 ft. long, weighs 7.5 tons, and travels at Mach 2. Major contractors are Boeing, Marquardt, Aerojet, and Westinghouse.

**Matador series:** These Air Force surface-to-surface bombing missiles are now operational. Their range is about 600 mi. Matadors are powered by rocket boosters and turbojet engines; they're guided by a combination of radar and inertial guidance. The Matadors are about 40 ft. long, weight 15,000 lb., and are transported to their launching sites on transport trailers. Their speed is about Mach 0.9. Major contractors are Martin and GM-Allison.

**Regulus series:** These ship-launched bombing missiles have a 650 mi. to 900 mi. range. Regulus is powered with a solid fuel rocket and turbojet engines; the guidance system is command radar. Regulus I is operational; Regulus II is still in the research and development stage. Major contractors for these Navy missiles are Chance Vought, GM-Allison, Aerojet, and Sperry.

**Snark:** This Air Force strategic bombardment missile has a range of 5,000 mi. to 5,500 mi. It's powered by turbojets, guided by a combination inertial guidance and celestial guidance system. Snark is 69 ft. long, travels at a speed of Mach 0.9. Next year, Snark missiles will join the Strategic Air Command stationed in Europe. Major contractors are Northrop and GM-Allison.

ministration with dissipation of scientific brains, money, and materials, and to charge Pres. Eisenhower directly with lack of imagination and interest in pushing development of ballistic missiles. In Congress, the Democrats are already pumping steam into their attack. The Senate Armed Services Subcommittee on Preparedness is preparing for hearings.

What first steps the Administration will take after appraising the domestic impact are uncertain. Pres. Eisenhower in his press conference at midweek gave no clue to that. His rather calm reaction to the news probably was designed for overseas consumption to show no wild alarm on our part.

The Defense Dept. itself probably will call many of the nation's missile scientists soon to a joint "what do we do now?" conference.

• **Face Savers**—Apart from reorganization of the Defense Dept.'s missile management, there's talk of two projects that might take some of the power out of the propaganda value of Russia's Sputnik.

First is Project Farside, whose aim is to shoot a four-stage missile 4,000 miles into space from Eniwetok Atoll, in mid-Pacific. A rocket would be carried aloft by a huge balloon on the first 100,000-ft. stage of its journey into space. Militarily, this effort wouldn't compare well with Russia's achievement: As in any straight-up research shot, guidance and control of the Farside rocket would not be particularly important.

Then there's discussion of a plan for firing a U.S. rocket all the way to the moon. This plan, however, is strictly in the discussion stage—but the discussion is in high places.

### III. Where Vanguard Stands

Meanwhile, the U. S. is pushing along with its own satellite program, Project Vanguard—though the pushing is being done, says one former defense official, "in a somewhat relaxed, pipe-smoking way."

From a rocketry point of view, the area that Vanguard shares with military development, Vanguard is a much less ambitious project than Sputnik. It is about one-ninth the size and is not designed for the same precision guidance.

From the point of view of scientific instrumentation, the comparison is less clear. In December, it is planned, several small 2-lb. satellites will be set in orbit. They will have much the same instrumentation as Sputnik—a radio transmitter. Next spring we expect to launch the final 21.5-lb. satellite containing elaborate instrumentation to observe outer-space conditions and report

the results to earth. The Russians say they intend to put up a similarly instrumented but much heavier device sometime soon.

From any point of view Vanguard is at least three months behind Sputnik. It is also apparently considerably behind schedule—though there is some vagueness as to the firing dates originally planned.

• **Delay**—There is little argument about the reasons for the relatively slow progress. Men involved in the project seem agreed that it traces to a policy decision to keep Vanguard rigidly separated from military work. This has meant a fresh start on the rocket vehicle and it has meant low priorities and apparently some skimping on funds. A good deal of the time the Pentagon seems to have been uninterested or hostile, the individual services uncooperative.

Many military rocket men are bitter now over this policy decision. They are convinced they could have had a satellite up long since if they had been allowed simply to add a third stage to some military rocket, such as the now-operative Redstone or the Jupiter intermediate range missile being developed by the Army's Redstone missile center.

• **Status**—Here is where Vanguard stands today:

The shell of the satellite itself has been finished—by Brooks & Perkins, Inc., of Detroit (BW—Nov. 24 '56, p181). Instrumentation is being worked on by the Naval Research Laboratory.

Martin Co. is over-all contractor for the rocket vehicle, with separate subcontractors for the guidance and for each of the three stages. The first stage, an improved version of Martin's Viking research rocket, is being built by General Electric, the second stage by Aerojet-General Corp. (also contractor on the Titan ICBM).

No contract has yet been awarded for the third stage, which plays a more important role in Vanguard than in Sputnik since it is relied on to furnish a full half of the final velocity. A prototype model has been accepted from Grand Central Rocket Co.; Allegany Ballistics Laboratory of Hercules Powder Co. is static testing what is believed to be a more powerful model, but there is some question whether funds will be available for further work. Both companies may eventually get contracts.

• **Test Schedule**—Neither of the first two stages has yet been flight tested. A test of the first stage (carrying dummies of the second and third) is expected at any moment this week.

All three stages will have to be ready by December, if the U.S. is to put up its first satellite then, as Pres. Eisenhower announced this week. In their first combined firing, they will carry aloft the small uninstrumented satellite.



# Labor Skids Toward Civil War

**Expulsion of Teamsters from AFL-CIO, seemingly inevitable, will lead to clashes among the giant labor organizations.**

Organized labor is tobogganning toward civil war.

With the inevitability of a brakeless down-hill run, labor's high-command is sliding to battle. You can expect the first outbreak within the merged labor federation—the AFL-CIO—over the issue of what to do with its largest affiliate, the International Brotherhood of Teamsters. Then it will spread—to warring between the giant unions.

It will affect not only those employers who deal directly with the big trucking union (page 159) but also those companies whose unions cross the spreading network of Teamster transportation.

• **Next Steps**—This bleak picture needs only a few more strokes to be completed. And, they are:

• In two weeks, on Oct. 24, the AFL-CIO executive council meets in Washington to vote suspension of the Teamsters union on grounds that it is dominated by corrupt leadership; notably its new president, James R. Hoffa.

• On Dec. 3, the AFL-CIO, meeting in convention in Atlantic City, will almost certainly put on the finishing touches by expelling the Teamsters from the federation. The federation will then open its arms to maverick Teamsters—and the war will be on.

This part of the timetable is already written. It became inevitable when the AFL-CIO Ethical Practices Committee laid out a record of corruption against the Teamsters, and tabbed Hoffa as the man who had to go. Just as inevitably, the Teamsters, in their convention, thumbed their noses at the federation by catapulting Hoffa into the presidency.

• **McClellan Quiz**—The AFL-CIO clean-up squad depended on evidence from the Senate investigating committee led by Sen. John L. McClellan (D-Ark.) who developed a list of "indictments" against Hoffa ranging from unauthorized, interest-free borrowing from union associates and businessmen to a pattern of association with racketeers. This was enough to brand Hoffa.

With AFL-CIO Pres. George Meany, a dogged, stubborn man, leading the way, the AFL-CIO can only carry out its anti-corruption pledge to expel.

• **Multiple Pressures**—From now until the official verdict, however, there will be heavy pressure from a variety of sources to try to prevent the expulsion. Certainly, Teamsters organizations



**FACE THAT'S LAUNCHING A WAR.** James R. Hoffa, swept triumphantly to presidency of Teamsters despite a flood of corruption charges, is storm center of struggle.

throughout the country will ask that the expulsion at least be delayed. What's more important, closer associates of Meany will begin attempts to slow down the schedule.

This has already started within the AFL-CIO executive council. Maurice Hutcheson, president of the powerful Carpenters Union, extended an olive branch to Hoffa after his election victory, praising Hoffa's clean-up efforts at the truck union convention. And, a member of the Ethical Practices Committee, National Maritime Union Pres. Joseph Curran, hit at the "one-sided pro-management" bias of the McClel-

lan committee, even though he voted against the Teamsters on the committee's evidence.

• **Internal**—Further pressures will come from inside the AFL-CIO—right up until expulsion day. And, on the Teamsters side, every move Hoffa makes will be directed at avoiding the inevitable: Publicly, he will make a show of altering policies in the Teamsters to conform with AFL-CIO complaints; privately he will seek internal AFL-CIO support to avoid an expulsion vote.

Nobody, and certainly not Meany, wants the Teamsters to be kicked out. Expulsion will mean to the federation

a loss of 10% of its 15-million membership. And federation leaders acknowledge that Hoffa will be an opponent whose strength, in men and money, makes it practically certain that he can't be broken up by a new rival union formed by the AFL-CIO.

• **Two Trials**—But the Teamsters also face more trouble. Hoffa must fight more rounds with the McClellan committee. He faces two trials starting next week on indictments for wire-tapping and perjury. The 44-year-old, chunky truckers president doesn't want to take on the AFL-CIO, too. But, there seems to be no way out. The AFL-CIO already is making plans for what to do after the Teamsters are expelled. First, the federation will aid Teamsters offshoots by chartering federal locals, then band them together as a new trucking union. This could bring a battle that would make the waterfront fights between the expelled Longshoremen's Union and its AFL-CIO counterpart several years ago seem tame.

• **Choosing Sides**—Unions probably will take sides all the way down the line. As a transportation union, the Teamsters haul goods in almost all industries; from automobiles to meat, construction supplies to textiles. And everywhere they cross territories of other unions. Several unions, which thrive on Teamsters' power, may take the Teamsters' road.

In the past, for the most part, these unions have cooperated in respecting picket lines, working peaceably, side-by-side. But, if the pattern is disrupted, mutual aid may turn to rivalry; job territories will be fair game in the place of no-raid pacts.

Employers frequently deal with the Teamsters and other unions at the same time. An outburst between these unions might shut down plants, prevent deliveries.

None of this will come suddenly. Working pacts between the Teamsters and other AFL-CIO affiliates—such as the Machinists, construction unions, retail trades, and the like—must be broken under an AFL-CIO anti-corruption clause in its constitution.

In state and local agencies of AFL-CIO, Teamsters have prominent jobs. A split will force them out of the union posts; it will help to widen the break at the top.

• **Another War**—The federation will survive a battle, at least for the time being. The AFL-CIO will lose the Teamsters' \$800,000 annual dues, but it won't be broke. Some smaller unions may follow the Teamsters out, but their secession won't matter too much.

The long-term threat, though, is an eventual war between the rival AFL-CIO factions that still haven't made up under merger—the building trades and industrial unions.

Meany has been unable to solve the jurisdictional fights between these union groups over who does construction work in an industrial plant—the craft unions or the production workers. There have been many bitter words over this in labor's house.

• **Jurisdiction**—The Teamsters' trouble may widen the chasm. Hutcherson's carpenters union along with the Teamsters belongs to a four-union pact for organizing road construction.

By his public praise of Hoffa, Hutcherson gains some strategic headway on the jurisdictional question. He can always threaten to bolt with his union to the Teamsters unless the building trades are given more jobs in production plants.

Pressures such as these will make the AFL-CIO a hunting ground for both sides. Defection of the building trades group would leave the AFL-CIO dominated by the old CIO, with ex-AFL man Meany at the helm. Only a few of the bigger AFL unions would remain.

• **Reuther's Help**—In the background, back-stopping Meany, is United Auto Workers' chief, Walter Reuther. Reuther has been relatively silent on corruption, mostly because Meany and he see eye-to-eye on the Teamsters. But Hoffa forces consider Reuther the instigator of their troubles. Hoffa's supporters want to try to split Meany and Reuther. They hope to sell Meany the idea that Reuther has a selfish motive—to gain for the UAW the truck union territory. Meany is not entirely unresponsive to criticism of Reuther; he is somewhat suspicious of Reuther's motives on other matters.

Right now, there are no indications of a split. To the contrary, both men will be working to keep the AFL-CIO as a bloc, including the building trades unions; probably even to the point of giving ground on jurisdiction.

• **Quest for Allies**—The Hoffa-led Teamsters, once outside the federation, will certainly seek allies. As a start, they may align with several other unions also facing corruption charges—possibly the old AFL textile workers and Bakery Workers—if they too are expelled from the federation.

From this beginning, it would be a short step to renewing closer ties with the Longshoremen's Union for a more solid control of the waterfront. There's talk of making up a separate federation with other independents such as John L. Lewis' United Mine Workers.

This possibility, however, is a long way off and would be tried only after the situation has shaken down. But Teamsters frequently have extended their jurisdiction beyond the loading platform, right into the plant. So this is terrain where the civil war might start and could be most severe.

# Fed Shifts

**The decision is to stand pat until the economy's drift is clear. That means that interest rates won't go higher—at least for the moment.**

**T**HE NATION'S money managers at the Federal Reserve Board in Washington this week were paying a lot of attention to the chart at right. What they see in it is bringing about a subtle but significant change in the Fed's restrictive monetary policy.

The shift: from maintaining tightness to a more cautious "wait and see" attitude.

The chart showing business loans was the biggest single factor in this decision. Although loans to business are well above the 1956 level, demand for credit is not following the growth pattern shown last year. Instead, there has been a definite topping off. That is not just due to the squeeze on the banking system, Fed officials think. It indicates a definitely lower level of demand for credit.

• **Fall Slump**—This slackening in demand has been making itself felt since midyear. But it has been the drop off since Labor Day—traditionally the starting point for a seasonal upturn in demand for credit—that brought about a change in the Fed's attitude.

Last week, for example, commercial and industrial loans in 94 leading cities were \$203-million below the previous week. In New York, the nation's leading money center, business loans showed a drop of \$15-million; a year ago, business loans rose by \$89-million. Loans in New York have increased by \$444-million in 1957, but this is far below the \$1.7-billion gain registered in 1956. And since midyear, business loans have actually declined by \$195-million.

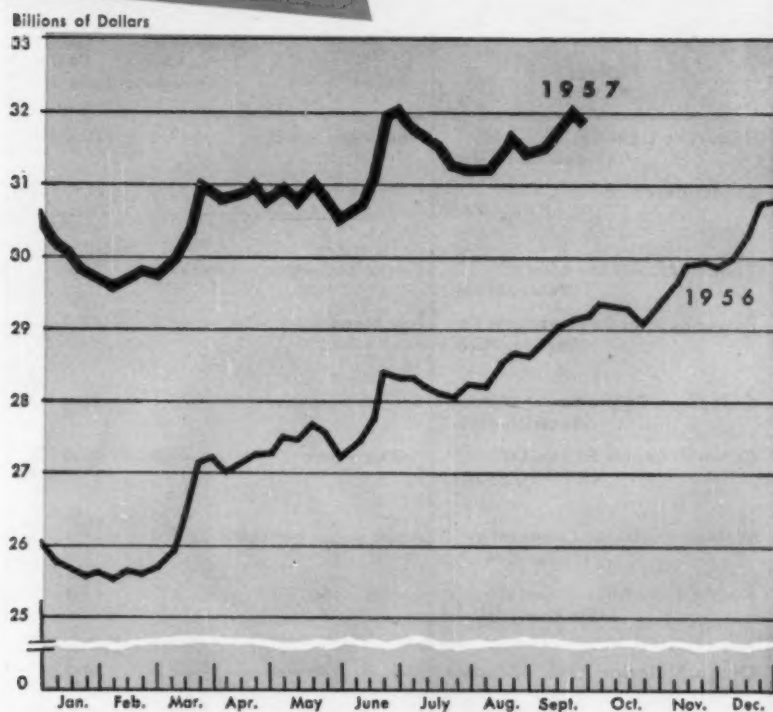
• **Healthy Sign?**—Federal Reserve officials view this topping off as a "healthy development," which they have been attempting to achieve. But they think that the trend is now firm enough to suggest that inflationary pressures may be easing.

As the Fed sees it, the decline in demand for bank credit is partially due to heavier borrowings in the capital market. This has enabled business to pay down its bank loans. In addition, they see an increase in "hand-to-mouth" inventory buying, which has cut down on the demand for short-term credit for big inventory accumulation.

One Fed official, for example, cited steel industry complaints about the failure of steel consumers to order large-scale shipments. "Large-scale shipments

# to "Wait and See" Money Policy

## Business Loans\*



\*Commercial and industrial loans of banks in leading cities

Data: Federal Reserve Board.

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would certainly mean a bigger demand for bank credit," he pointed out. "The fact that demand is down indicates that we are not having any frenzied buying."

• **Capital Spending, Too**—Officials also mention that capital spending is leveling out, which should make for a decline in demand for funds in the long-term capital market. Already, officials say, the long-term market is able to absorb most of the new offerings without too much trouble.

That, too, is a sign that supply is coming into balance with demand. "You see some slow-moving issues," one official says, "but by and large investors not only appear to have funds but are willing to put them to work. That's encouraging."

Another sign of the weakening of inflationary pressure, according to the Fed, is the downturn in stock prices. The Federal Reserve considers the stock market a major indicator of business sentiment and interprets its continued weakness as a sign that businessmen are no longer inflation-minded.

• **Still a Threat**—But the easing of inflationary pressures has not yet made the Fed feel that a definite shift toward easy credit is needed. Officials still do

not feel that the threat of inflation is entirely past. "As long as consumer prices keep climbing," says one official, "no one can say inflation is over."

This fear explains the shift to a "wait and see" policy. The Federal Reserve has paused like this several times since it began its tightening policy in 1955.

On each previous occasion, the Fed eventually changed from a passive to a tighter policy. In early 1956, it signaled the change from "wait and see" by increasing the discount rate, which created a storm of Administration protest. In early 1957, it again seemed uncertain, then tightened up once more, and finally put through another discount hike this August.

Federal Reserve officials are once more uncertain of which way the economy will move. Very few officials now expect a strong upturn this fall. But there is no real concern about a sharp decline.

• **How Will It Work?**—Fed officials are keeping mum about just what the new policy means in terms of operations. Some money market observers think that the Fed will be supplying more funds to the nation's banking

system. This would enable the banks to lower their borrowings from the Fed. But officials do not confirm that this is their target. All they are saying is that interest rates, for the moment at least, will not be going higher. They stress that the level of demand is the key. If demand eases further, interest rates will "automatically" fall; if it stays the same, there will be a leveling off.

• **Significant Change**—But the shift in Fed thinking is important. Only a few weeks back, the Fed was using "open mouth" policy to warn about inflation. The money managers were then saying that they would not change policy until prices definitely were rolled back. And they seemed to be indicating that if a recession was needed to bring on a rollback in prices, the Fed was prepared to see a recession.

This attitude no longer prevails. The Fed appears to think inflationary pressure has substantially receded. "There are no grounds, say officials, "... for further intensification of pressure on the banking system. What happens to the economy now is hard to determine, so we plan to keep on the alert until we have more definite signs of which way the winds are blowing."

One Fed official explained that "we are now facing a dilemma." As he sees it, the timing of a definite move, either toward further tightness or relaxation, is the Fed's biggest problem. "We may be getting a little slack in the economy, which is what we want. But we don't want to overstay the boom too long and get too much slack."

The Fed is extremely conscious that it made mistakes in the recession of 1953. The first mistake was tightening too swiftly in the early spring, which brought on conditions of near panic in the money market. This near panic, in which credit was unavailable at any price for a space of two days, led to a radical shift toward ease. It followed this up by a second mistake: making money too loose, so that when the boom resumed in late 1954, inflationary pressures could assert themselves.

There is no doubt that the Fed would like to avoid such mistakes this time. That is one reason for its "wait and see" position. It hopes to avoid the kind of tightness in the market that forced it to take drastic steps toward ease.

If this is the case, and the economy continues to show signs of slackening, the present neutral policy may be followed by an easing. But it is unlikely to be a massive or dramatic move. "Our objective is a smooth transition," summed up one Fed official, "and maybe this time we can achieve it."



# Cost Pinch Slows Atomic Power

Costs of nuclear plants are soaring, profit prospects are vanishing, and utilities are losing their atomic zest.

So reactor makers as well as Congress are pushing for big federal aid to get out of rut.

As the Atomic Energy Commission this week readied this country's first full-scale commercial atomic power plant for operation, the rest of the U.S. nuclear power program appeared in real trouble. The trouble—as you see in the table at the right—is a cost spiral.

At Shippingport, Pa., the fuel core of the 60,000-kw. pressurized water reactor for the pioneer commercial plant was set into place (picture, page 50). The joint AEC-Duquesne Light Co.-Westinghouse Electric Co. project is expected to produce power in about two months.

• **Exhibit A**—The Shippingport project itself is an example of what is ailing the rest of the nuclear power program: costs far in excess of earlier estimates, and no early prospect of operating at a profit.

The first power that will come from Shippingport is expected to cost somewhere around 63 mills per kwh. Conventionally generated power averages about 7 mills. And capital cost of the plant has gone up from an early estimate of \$47.8-million to \$70-million.

• **Chain Reaction**—The significance of the cost factor in nuclear power is that it produces a chain reaction. So the fear is that high costs and the poor profit outlook will slow private investment in nuclear power plant construction.

This in turn means no market for the manufacturers of power reactors. And so the manufacturers will have to continue to carry at a loss the civilian power reactor departments they have set up.

• **Boost Needed**—There is another set of facts to be considered. Federal investment in atomic power plant construction has been comparatively small. Both the Administration and the electric power companies have firmly opposed outright federal construction of power reactors. The emphasis has been on private investment, to gain the benefit of the cost-cutting incentive.

Observers in Washington now believe the time has come when nothing short of large-scale federal aid will lift nuclear power progress out of the rut. There are indications that the manufacturers increasingly will demand this,

## How Nuclear Power Plant Costs Skyrocket

Project	Reactor Type	Early Cost Estimate	Current Cost Estimate
		Millions of Dollars	
Duquesne Light Co. (Shippingport, Pa.)	Pressurized water	\$47.8	\$70.0 (1)
Consolidated Edison Co. of New York	Pressurized water	55.0	70.0 (2)
Yankee Atomic Electric Co. (Rowe, Mass.)	Pressurized water	32.9	57.0
Power Reactor Development Co. (Monroe, Mich.)	Fast breeder	48.5	47.3
Consumers Public Power District (Beatrice, Neb.)	Sodium graphite	25.1	43.2
Commonwealth Edison Co. (Chicago)	Boiling water	45.0	60.0 (3)
Wolverine Electric Cooperative (Hersey, Mich.)	Aqueous homogeneous	3.6	14.4
Rural Cooperative Power Assn. (Elk River, Minn.)	Boiling water	4.5	11.8
Chugach Electric Assn. (Alaska)	Sodium graphite	7.3	9.6
City of Piqua, Ohio	Organic moderated	5.6	8.0

(1) Excludes \$42-million for research and development.

(2) Currently being revised again.

(3) This is a fixed price contract at \$45-million. Present guesses are that actual costs may run around \$60-million, or \$15-million more than the fixed price. This would be the loss suffered by General Electric Co., the contractor.

in order to provide them with a market. There are indications that the electric power companies are no longer willing to come forward to build costly plants that will operate at a loss for years.

• **Shocker**—The real shocker to the industry on nuclear power plant costs has come in recent weeks in contracts under negotiation between AEC and Foster Wheeler Corp. on the one hand, and between AEC and American Machine & Foundry Co. on the other.

Foster Wheeler proposed to build a 10,000-kw. aqueous homogeneous reactor for the Wolverine Electric Cooperative at Hersey, Mich. The original cost estimate was \$3.6-million. By the time AEC could go to Congress last August for funds, the cost was \$5.5-million.

Now, less than two months later, AEC has had to cancel its negotiations with Foster Wheeler—because the latest estimate has jumped to \$14.4-million and the cost still “might go higher.”

The AMF case involved a proposed 22,000-kw. boiling water reactor for the Rural Cooperative Power Assn. of Elk River, Minn.

The original estimate was \$4.5-million. When AEC went to Congress for funds in August it was up to \$8.9-million. A few weeks ago AMF's chairman, Morehead Patterson, asked that the figure be boosted to \$11.8-million. Patterson proposes to contribute up to \$1-million of the new cost, and to do the job without fee.

In spite of this, AEC this week cancelled the AMF negotiations and threw the matter open to proposals by all U.S. companies.

Foster Wheeler told AEC it was unwilling to accept a ceiling-type contract. For AMF, Patterson was begrudgingly willing to accept a ceiling at \$11.8-million, but in a letter to the Joint Congressional Committee on Atomic Energy he said that the risk of losses to the company threatened to exceed “substantially” the \$1-million





## Sinclair on move in Canada

One of the most active and exciting oil areas today is Canada. And there, through Sinclair Canada Oil Company, the Sinclair organization is progressing rapidly.

Its oil production now averages 5,000 barrels daily and is still growing. Sinclair has become part owner of pipe lines moving Canadian crude and has a 40 per cent interest in a St. Paul, Minn. refinery processing such oil.

The Company's oil search stretches 1,200 miles from southeastern Saskatchewan to northwest British Columbia. It covers more than 4 million

gross acres. The \$10 million exploration program in progress this year is the Company's most extensive Canadian undertaking thus far, and typifies the steady growth of Sinclair's crude oil exploration and production.

# **SINCLAIR**

*A Great Name in Oil*

contribution it was willing to make.

- **Under the Wire**—Another contract, recently signed by AEC, just got by in a fast, beat-the-deadline finish. This is the contract with Consumers Public Power District in Nebraska for construction of an atomic plant at Beatrice.

The proposed contract had been hanging fire for some time, and had run the gauntlet of an intra-state battle in Nebraska and a last-minute hitch in Congress. When it was finally approved, Consumers was almost up to a Sept. 21 deadline on an option for needed equipment for the plant. For the contract to go through, the Joint Committee on Atomic Energy had to waive its normal 45-day period to study the terms. The committee did this at an 11th hour meeting on Sept. 19, and the contract was finally signed on Sept. 20—one day before the deadline.

In this case, too, costs had soared since the original estimate was made.

- **Soft Pedal**—This rise in atomic power costs can hardly be called a secret. Yet observers believe there has been a tendency to gloss over the fact, certainly in AEC.

AEC has been under pressure from Democrats in Congress to show results in atomic power or accept wholesale federal construction of power reactors. The commission has in turn put pressure on the electric companies.

- **Damper**—The indications are, however, that the electric companies are losing their enthusiasm for investing in big atomic power plants. The Foster Wheeler-AMF cases doubtless will serve further to dampen any remaining zeal.

AMF's Patterson points out that on the basis of actual experience to date, power reactor costs range from \$750 to \$1,000 per kw. of electrical output for reactors larger than the one AMF proposed to build at Elk River, and from \$1,500 to \$2,000 per kw. for reactors smaller than Elk River. By comparison, conventional power plant installation costs in the U.S. average \$146 per kw.

Patterson's figures on power reactor costs are far above any previously given in public by a competent authority.

The disillusionment is not confined to capital costs. Electric utilities now realize that operating and maintenance costs are going to be a heavy burden.

- **No More in Sight**—As things stand, it looks as if AEC Chmn. Lewis Strauss has flogged the last mile out of the tiring electric companies.

The last effort made by AEC to stimulate industry participation in atomic power development was the so-called third-round invitation for atomic plant proposals.

So far, AEC has received three proposals. These are (1) from the Northern States Power Co. group of Minneapolis for a 66,000-kw. boiling water reactor,

(2) from the Carolinas Virginia Nuclear Power Associates for a 17,000-kw. heavy water moderated and cooled reactor, and (3) from the Florida Nuclear Power Group for a 136,000-kw. natural uranium, gas-cooled reactor.

These three proposals, plus earlier ones that have developed into firm plans for atomic power plants, represent just about the limit of the domestic market for the time being. Possibly one other third-round proposal will materialize from California.

- **Squeeze**—This situation puts AEC and the electric companies in the middle of a squeeze. On one side the manufacturers are becoming increasingly dissatisfied with the lack of a civilian atomic power market. On the other side Congress is demanding more progress in atomic power development.

All indications now point to some form of large-scale federal investment.

- **Industry Push**—As long ago as last February, Chauncey Starr, general manager of North American Aviation, Inc.'s Atomics International Div. (BW—Sept. 14'57, p140) told Congress that the government would have to invest more money in atomic power development

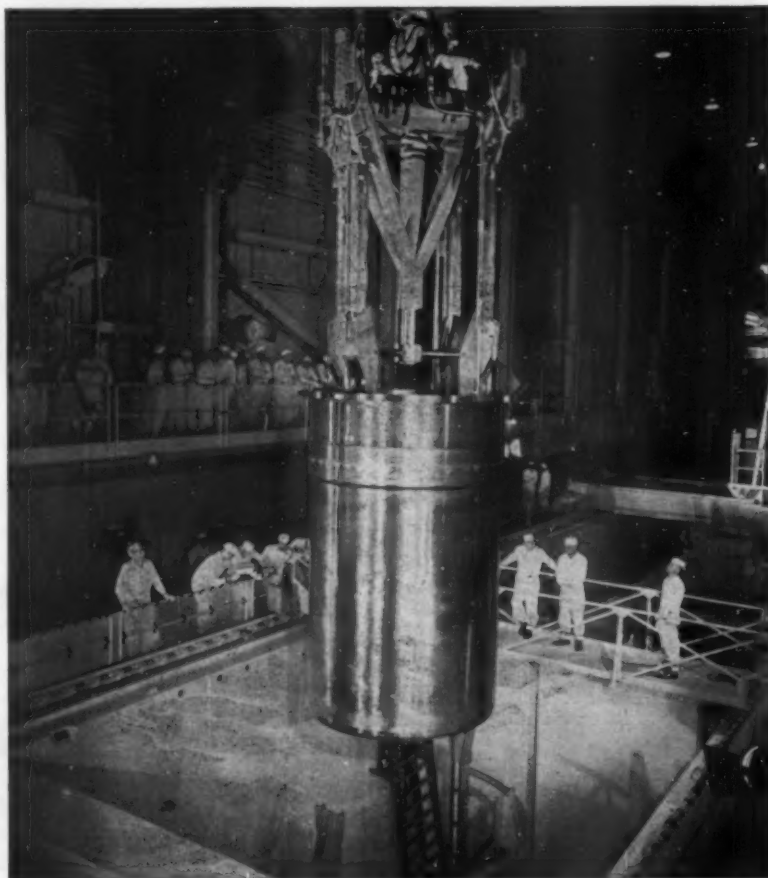
to provide the economic incentive now lacking to manufacturers.

Recently the representative of one of the largest manufacturers in the country told the electric companies, in effect, that they had to end their opposition to federal participation in nuclear power development. The warning came when AMF's Patterson told the Joint Committee it did not make sense to weaken manufacturers for future work by making them hold the bag.

- **Congress Push**—There are also indications that the Joint Committee on Atomic Energy will demand changes next year.

The committee chairman, Rep. Carl T. Durham (D-N.C.), says: "Some means must be found better than the present pattern of AEC operations to assure efficient and effective application of government resources and private initiative." Durham is opposed, however, to federal construction.

- **Possible Answer**—Many Washington observers believe the only answer is outright subsidy. They argue that railroads, airlines, shipping have all prospered on federal subsidy, and "the same should apply to atomic power."



ATOM PIONEER—Nuclear core for U.S.' first full-scale commercial atomic power plant goes into position at Shippingport, Pa.; plant will produce power in about two months.



Bell Telephone Laboratories, Murray Hill, N. J.

## DREAMS WITH A PURPOSE

*"Leave the beaten track occasionally and dive into the woods. You will be certain to find something you have never seen before."*

ALEXANDER GRAHAM BELL

THERE have always been dreams and high hopes in the communications business. And always, for something over eighty years, there has been continuous and determined research to help make those dreams come true.

For before there was a telephone there was a telephone laboratory.

First it was just two men, Bell and Watson, in an attic workshop. Then the idea grew, as the need grew, and the practical values of research became more and more apparent.

Today there are more than 10,000 people at Bell Telephone Laboratories,

of whom over 3000 are trained scientists and engineers.

Their work covers many fields and goes exploring and developing in many directions. But everything is directed to one goal. It is the betterment of communications service and the finding of ways to provide this better service at the lowest cost to the customer.

The great assets of the Bell Laboratories are the judgment and knowledge that have been gained from years of experience, combined with the enthusiasm of minds versed in the newest scientific knowledge.

There is also the encouragement of initiative through a careful balance of pure research and developmental work. The scientist is given a freedom that is rare in industrial work.

Some of the great achievements of the Bell Laboratories have come in recent years.

The Transistor is a Bell Telephone Laboratories invention. So is the Solar Battery. So, too, are the switching machines that have brought about Direct Distance Dialing. And, again, there was the development of those wonderful amplifiers for the underseas telephone cables.

It all adds up to a great deal of progress. But there is much more to come. All that has been done is but the beginning.

Never have there been so many opportunities for wholly new developments in telephone service and so much well-rounded research behind them.

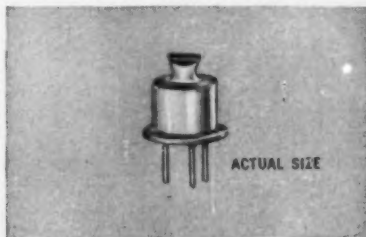
Each day there are excursions off the beaten path, revealing something that has never been seen before.

Working together to bring people together  
BELL TELEPHONE SYSTEM



**BELL SOLAR BATTERY**

Converts sun's rays into usable amounts of electricity by means of specially treated discs of silicon. Has been used experimentally to power rural telephone lines.



**THE TRANSISTOR**

One of the break-throughs in science that come only at rare intervals. This mighty mite can do many of the things that an electronic tube can do and more besides!



**DIRECT DISTANCE DIALING**

By the end of this year some 5,300,000 telephone customers in 440 localities will be able to dial directly to as many as 35,000,000 telephones all around the country.



# In Business

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## Premium Steel Prices Sag a Bit;

### U. S. Steel to Prolong Ore Season

It's too early to be positive, but premium steel prices showed signs of fatigue this week.

Lukens Steel (page 165), a non-integrated producer whose costs depend on the now generally sagging scrap market, cut its plate price by \$8 a ton, down to the \$102 industry standard. But three other producers in the Philadelphia district retained \$2-\$14 premiums on carbon plates.

Barium Steel clipped \$3.50 a ton from its standard structural shapes, down to the Eastern standard of \$106.50. Yet Barium, wholly dependent on scrap, retains its \$14 carbon plate premium in the Philadelphia district.

In Chicago, Inland Steel maintains its \$5 premium on wide flange beams over the standard \$105.50 set by U.S. Steel. The \$1 a ton difference between Big Steel and Bethlehem primarily reflects freight differentials.

Plates and wide flange beams continue to be the steel products in widest demand.

U.S. Steel's Pittsburgh Steamship Div., which has already carried more ore from the Lake Superior district this season than in the entire 1956 season, hopes to keep operating through November.

With most of the trade expecting an early end to the ore-carrying season, three reasons are seen for U.S. Steel's plan:

- The desire to build up ore stockpiles to avoid any possible need for costly early season operations.
- Ore needs are up this year, with U.S. Steel putting more pig iron in relation to scrap in its products.
- Extra stockpiles might be handy for the two big ore treatment centers that Big Steel expects to put into operation in the Pittsburgh and Chicago areas next year.

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## U. S. Says Two Big Bread Makers

### Put Too Much Crust in Ad Claims

The government this week took two separate whacks at bread manufacturers in a drive to "correct abuses that have arisen in labeling and merchandising."

The Justice Dept. won a preliminary injunction barring Continental Baking Co., maker of Wonder and County Fair bread, from labeling its enriched products as "buttermilk bread" or "buttermilk enriched bread." The government said Continental played up the use of buttermilk to create the impression that its product was superior to competitors. Continental was also forbidden to use nitrated flour, which is barred in enriched breads by the Food & Drug Administration.

FDA asked Giant Food Stores, Inc., a Washington supermarket chain, to show cause why it should not be

prosecuted for misrepresenting its Heidi bread. Heidi substituted "soft" fats for "hard" ones (such as butter) in its bread, and plugged this as a health aid because of the still unproved medical theory that hard fats contribute to heart disease by raising the cholesterol level in the blood (BW—Aug. 17 '57, p89). FDA says Heidi should have pointed out that a single pat of butter on a single slice of bread contains more cholesterol than a whole loaf of bread.

Both Continental and Giant Stores halted the disputed practices when the government began its actions.

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## Business Briefs

**Migratory business:** After months of backing and filling, Brooklyn's once-beloved Bums—the Dodgers—made it official that they will peddle their baseball wares in Los Angeles next year. The New York Giants, their old interborough rivals, made the jump earlier, to San Francisco (BW—Aug. 24 '57, p38). . . . Chrysler Corp. will build an assembly plant somewhere west of the Mississippi to replace two units that it is closing down in Evansville, Ind.—which loses a 5,000-man payroll. . . . Deere & Co., the giant farm equipment maker, has options on 675 acres near Moline, Ill., for a campus-type headquarters.

If stockholders of both companies approve in December, St. Louis' Falstaff Brewing Corp. will absorb Griesedieck Bros. Brewery Co. and its 800,000-bbl.-a-year plant. Griesedieck—and probably its name brand—will join some 30 other St. Louis brewers that have gone down the merger drain. The Griesedieck family has been in the brewing business since 1712, starting in Germany. Falstaff last year rated as the fourth largest U.S. brewer, with nearly 3.9-million bbl.

Congress' Joint Economic Committee plans a major hearing in April on the relationship of prices to economic growth. Chmn. Wright Patman (D-Tex.) says the committee will explore ways in which public and private policy can contribute to the Employment Act objectives of maximum employment, production, and purchasing power.

The annual meeting of the Canadian Graphic Arts Assn. last week heard Toronto publisher David MacLellan demand government restrictions on the flood of printed matter pouring in from the U.S. MacLellan said the Canadian tax on foreign magazines that pick up Canadian ads for Canadian editions (BW—Mar. 24 '56, p36) barely scratched the surface of the competition, which he estimated at between \$85-million and \$100-million a year, much of it in direct mail form.

The federal government next month will reach one year nearer the cradle in its drive to snare talented college graduates before private business gets them. College juniors who pass a "federal service entrance exam" will be offered jobs paying between \$3,670 and \$4,525 a year, effective on their graduation. It's the first time the Civil Service Commission has approached anyone younger than college seniors.



## It's earlier than you think

Since 1952, U. S. expenditures for capital improvements have equalled the value of the country's *total goods and services* only fifteen years ago . . . more than 150 billion dollars!

Where does it end? It doesn't. With upward of 9 billion dollars a year going into research and development . . . with a projected gross national product valued at 700 billion dollars in *another* fifteen years . . . we're on the threshold of the greatest age of industrial growth and change in history.

One of the fundamental requirements to meet the increased demands on productivity is the timely replacement of *economically obsolete* equipment. In the severe competition of today and tomorrow, an understanding of the critical difference between the "useful" life of a machine and its useful *profitable* life is essential to survival.

*No other machine tool builder in the world can equal Jones & Lamson's industry-wide experience in increasing efficiency and lowering costs with high-velocity metal turning and grinding equipment.*

A variety of liberal finance plans is available to meet your varying replacement requirements.

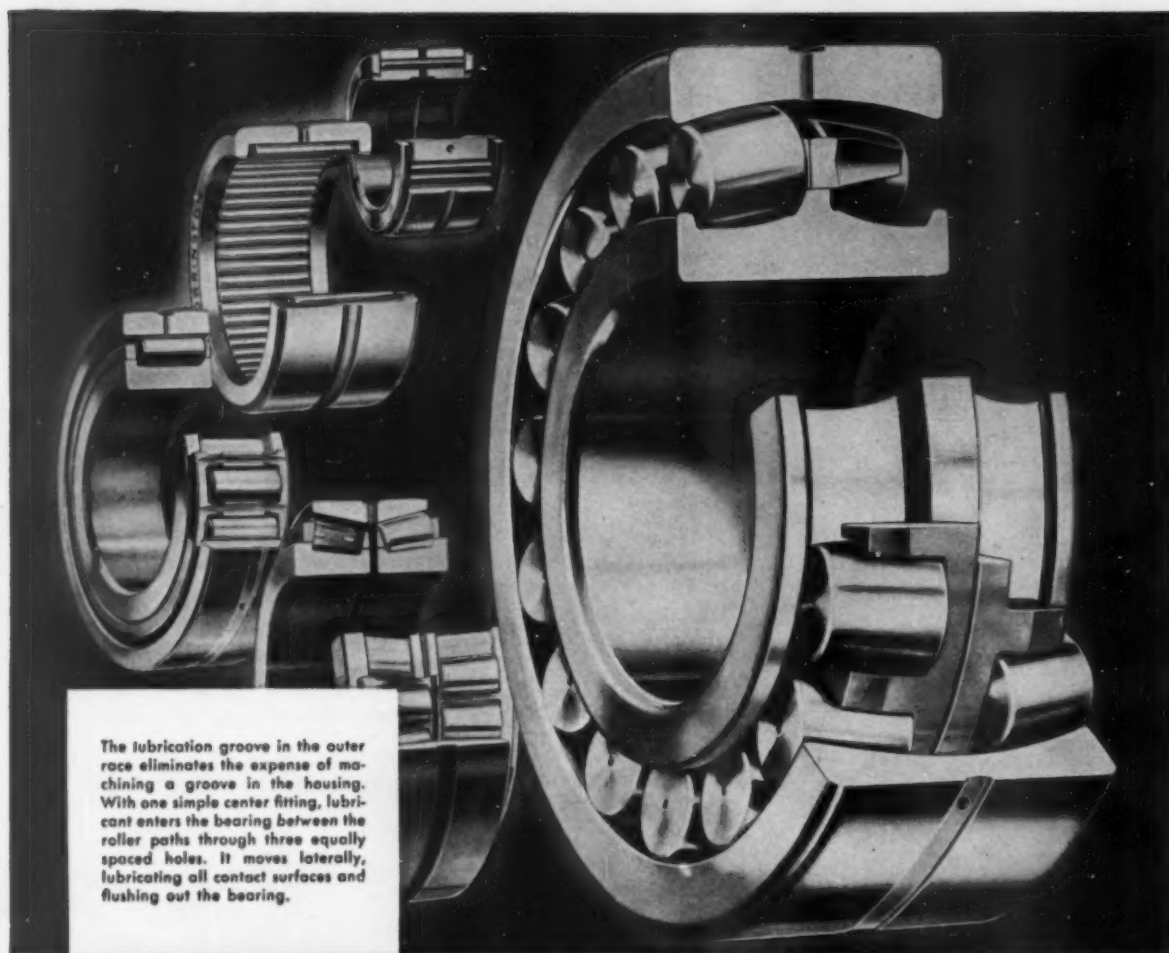


**the man who needs  
a new machine tool  
is already paying for it**

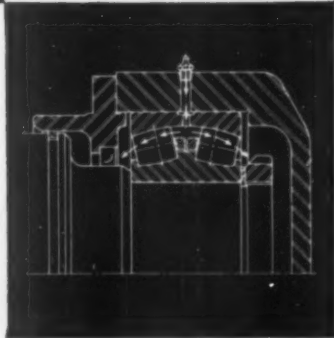


**JONES & LAMSON** MACHINE COMPANY • SPRINGFIELD, VERMONT

Turret Lathes • Fay Automatic Lathes • Precision Boring Machines • Thread & Form Grinders • Optical Comparators • Threading Dies, Taps & Chasers



The lubrication groove in the outer race eliminates the expense of machining a groove in the housing. With one simple center fitting, lubricant enters the bearing between the roller paths through three equally spaced holes. It moves laterally, lubricating all contact surfaces and flushing out the bearing.



## A time-proved lubricating method now available on Torrington Spherical Roller Bearings

The circumferential groove in the outer race has met the test of experience in many Torrington Bearings, including Heavy Duty Needle Bearings, Aircraft Type Needle Bearings, Tapered and Radial Roller Bearings. Now the circumferential lubrication groove is available in Torrington Spherical Roller Bearings.

This design feature makes it possible to introduce lubricant *between* the roller paths without the expense of machining a groove in the housing. This groove is proportioned to provide generous lubricant flow capacity. Lubricant moves through the roller paths, flushing used lubricant and contaminants away from bearing contact surfaces.

Torrington Spherical Roller Bearings in many sizes may be ordered with this groove as desired at no additional cost. For further information, see your Torrington representative or write: **The Torrington Company, South Bend 21, Ind.—and Torrington, Conn.**

### **TORRINGTON BEARINGS**

*District Offices and Distributors in Principal Cities of United States and Canada*

**SPHERICAL ROLLER • TAPERED ROLLER • CYLINDRICAL ROLLER • NEEDLE • BALL • NEEDLE ROLLERS • THRUST**

# WASHINGTON OUTLOOK

WASHINGTON  
BUREAU  
OCT. 12, 1957



**Washington is upset, frankly, by Russia's scientific gains.**

**There's more to it than the Red Sputnik**—the Soviet's satellite, launched well ahead of U. S. expectations. For perspective, you need to think back over the postwar years. Russia developed her first A-bomb much earlier than had been anticipated. The same was true of her first H-bomb. And, meantime, she flew new jet planes much earlier than had been expected. In the missile field, Red progress is way ahead of what our defense officials anticipated. Any doubt about Russia's claims of an intercontinental ballistic weapon disappeared when the little Red moon was put in the sky.

**What will Washington do about it?** That's the question that pours in from all sides. And there's nothing spectacular in the answer.

**Spending for defense won't be stepped up**—not in any sensational way, at least. The official explanation is that money now committed to research and development is sufficient to engage available manpower—brainpower. But there will be efforts to use them more efficiently.

**Efforts will be better coordinated.** Heretofore, the Army, Navy, and the Air Force have had their own separate projects in the missile field, with the Navy holding chief responsibility for getting a satellite in the air. You will see moves to give these programs more central direction, but the Navy will keep control of the satellite.

**You will hear about a new defense advisory group.** It was taking shape before Russia launched her little moon. It will bring together the top military planners—the men who make basic strategy—and businessmen who have the responsibility for meeting military production needs. The effort will be to develop and appraise long-term strategy and decide what portion of the nation's economy can be devoted to defense while civilian needs are being met. Preliminary discussions already are under way.

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**Defense will become more involved in politics.** With the next session of Congress little more than 10 weeks off, you are getting advance signs.

**The so-called lag in U. S. research and development will be investigated.** The Democrats, with the next election contest for House and Senate control only a year away, will try to show that Eisenhower economies have hampered defense—permitted Russia to surge ahead in the arms race.

**Nothing will be proved, of course.** The aim will be to use the Red danger to make voters uncertain about defense and in this way try to pick up extra House and Senate seats. Chmn. Russell (D-Ga.) of the Senate Armed Services Committee already has started the investigating wheel turning.

**How great is the U. S. lag, assuming there is a lag?** Security restrictions hide progress in the missile field. A number of long-range weapons are being tested. So far as is known, none has been put on a production schedule. But it is known that Russia is producing, on an operational basis, mid-range missiles—ones that can reach out as far as 1,500 miles. And that's far enough to put many, if not most, of the U. S.'s foreign air bases under the Russian guns. The advantage of these bases now is being questioned.

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**All indications point to a bitter Congressional session, starting in January.**

# WASHINGTON OUTLOOK (Continued)

WASHINGTON  
BUREAU  
OCT. 12, 1957

**Unrelated issues will influence the defense debate.** Note that both the House and Senate Armed Services Committees have Southern chairmen, each bitterly opposed to Administration school integration policies. They are Chmn. Russell of the Senate committee and Chmn. Vinson, of the House committee—both from Georgia. The racial issue will intensify any defense investigation.

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**The politics will lap over into the economic field.** Note the Administration's current business appraisal (BW—Oct. 5 '57, p39).

**Inflation worries are on the decline.** Administration thinking is that the big pressures that have pushed costs up in the past 18 months now are tapering off. Steel, for example, in short supply not so many months ago, now is plentiful again. So, the figuring is that it's time to start thinking about business easing off—perhaps, a sort of little recession. The Administration doesn't want this to be taking place next year when elections roll around. Already, its economic double-domes are talking about easing credit (page 46) and, if it turns out to be desirable, cutting individual income taxes to boost consumer purchasing power and thus bolster demands for industry's output.

**Democrats have some views on this, too.**

**Remember this year's economy fight in Congress?** It was out of character for the heirs of the free-spending New and Fair Dealers. But it was good politics at a time when taxpayers were complaining.

**Democrats may shift again next year.** If the Administration comes up with a tax-cutting program to stimulate spending, the Democrats may well say "no"—fight a cut on the grounds that it would mean a return to deficits and ultimately another sharp rise in living costs. Democrats like the idea of cutting taxes, if they can get the credit. But they won't be in favor of it if it means pulling the GOP out of an economic hole.

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**Little Rock remains Domestic Problem No. 1.**

**Eisenhower would like to get off the hook.** The longer troops hold the school, the greater the chance of an incident that could backfire on the Washington Administration and cause political embarrassment.

**Faubus will sit tight.** The word from his side is that he has no intention at all of making it easy for the White House to pull troops out. Faubus understands the White House worry over incidents and is gambling that time may well be in his favor.

**The South may try a new approach.** Courts already have indicated that the pupil placement system, as voted in Virginia and North Carolina, won't stand up when they get to the Supreme Court. The final decision is yet to come. And already Southern legislators are figuring on new schemes.

**The idea is for freedom of choice.** It's this: States would allow students and their parents to decide on whether to attend all white, all colored, or mixed schools. This would mean upping of local school costs. But advocates say this triple school system might not send costs too high. They reason that few white parents and students and few Negro parents and students would elect the mixed schools. This probably will be tried in some places. But it hardly seems a solution to a problem that is bound to plague the nation for years to come.





## Lawrence Berra, Esq., does a job for leather

**Yogi** has a lot to do with leather. Catches it. Catches with it. Hits it. Wears it. Even autographs it. Like most athletes, he couldn't do without it, since no other substance does certain tough jobs so well.

**Notice** that Yogi's pretty fan favors leather, too. A fashion trend that's no accident. The American leather industry has developed new tanning methods, new processes

that make leather soft as velvet, pliant as jersey. You'll see them in the new fall styles — for indoors and out. Feel good. Look wonderful.

**All of which** is pleasing to us at DIAMOND ALKALI, since we are a leading supplier of chemicals to the American leather industry. Think of DIAMOND's "Chemicals you live by" next time you see a baseball — or a prettily filled leather jacket.

DIAMOND ALKALI COMPANY, Union Commerce Bldg., Cleveland 14, Ohio.



### Diamond Chemicals



# FOOD

## *Another Industry Where General American Works!*

More than forty-two billion dollars a year at retail! That's our annual food bill. Today, the food industry relies on mechanized farming, modern processing, convenience packaging, speedy distribution, supermarket selling . . . techniques developed to make this the best fed nation on earth.

General American specialists work

with food processors in many ways—they engineer mixers, dryers, pneumatic conveyors and storage equipment. They apply Kanigen® nickel-alloy coatings to make process equipment contamination-free . . . make plastic containers to add buy-appeal to ready-to-serve foods. They design and lease GATX tank cars to move

liquids—Airlide® cars for bulk shipment of flour, starch and sugar—refrigerator cars to preserve perishables.

This experience in research, manufacturing, shipping and storage can be applied to your problems. You'll find . . . *it pays to plan with General American.*

**GENERAL AMERICAN TRANSPORTATION CORPORATION**

135 South La Salle Street • Chicago 90, Illinois  
Offices in all principal cities



# Selling Prefabs By the Piece

● Traditionally, the prefabricated housing industry has concentrated on selling a whole house—or none at all.

● But prefabs never caught on the way promoters thought they should—although the industry is now healthier than conventional housing.

● So now some companies are offering a full line of component parts—in hopes of shoring up sales.

In 1933, Foster Gunnison, pioneer mass prefabricator of housing, laid down a law that the industry has only recently begun to violate. "We'll sell by the house, not by the building blocks," Gunnison declared. And the prefab industry went along. Traditionally it has sold complete and indivisible houses, not the components of houses.

But now at least 15 companies are bolting from tradition: They want to sell building blocks, too. The future of the industry could rest on their success.

Gunnison's law was first applied to Gunnison Homes, now U. S. Steel Homes, Inc., a subsidiary of Big Steel. In the early days of prefabrication, manufacturers sold only the "shell" of the house—including wall panels, shingles, and trusses—to builder-dealers. More recently, they have turned increasingly to a so-called "package" home, complete with kitchen appliances, built-in cabinets, and even optional air conditioners. Normally, the builder-dealer had to buy the whole package.

• **Take Your Pick**—Now the maverick prefab companies are offering builders a choice. They can take any or all of a prefab's sub-assemblies—wall, window, and door panels; fireplaces; staircases; plumbing walls; even lampposts for the lawn—with or without the prefab itself.

## I. Why the Change of Ways?

This trend toward the selling of components is aimed in three directions:

• To give prefab houses a custom-made look. It's possible to change design and dimensions by judicious selection of parts. This could lead to more public acceptance of prefabs, scornfully considered by some just a cookie-cutter item.

• To lure builders into the use of prefabs. With costs of conventional

building soaring, more builders might jump into the prefab field if they could build exclusive homes that way—at the higher prices such homes command. Many builders are already erecting hybrid homes—half prefab, half constructed on the site. The sale of prefab parts could fortify the trend.

• To shore up sales in a drowsy housing year. In 1957, the prefab industry expects a 10% drop in sales from its 1956 record of 94,800 homes. A new line of products could provide a pick-me-up.

• **Surprisingly Happy**—The industry's new concept of selling comes at a time when prefabricators are pleased that their business is keeping pace with conventional housing. In a crisis year for housing such as this, it would be logical for prefabbers to be hurting more.

Prefabbers consistently tout their business as about to burst into fantastic prosperity. But it's never happened. Even in years of unprecedented housing boom, the best the industry has been able to do is to account for a mere 10% of the nation's single-family housing starts in any one year (1956).

So 1957—a notoriously bad year for builders—could be expected to be even worse for prefabbers. For one thing, most prefabs are financed by FHA and VA loans, and these have declined steadily. However, at last count, conventional building was off 13.9%, prefabs off only 10%.

• **Reasons for Strength**—The real morale-boosters for the industry are the two factors behind its surprising showing:

• The industry's internal revolution—better designs, lower production costs, better interim financing, larger dealer organizations, expanded marketing areas—is finally paying dividends.

• The sales decline can be attributed to the weaker, overexpanded, or financially unsound prefabbers. Many of the big, more stable com-

panies are holding their own. For example, the industry's giant—National Homes Corp. of Lafayette, Ind.—entered the second half of 1957 with lower sales (offset by higher net income) than a year before, but it now expects a sales boost of 5%. General Homes, Ft. Wayne, is enjoying the best sales year in its history.

Few in the prefab housing industry are quite so optimistic as Paul McCobb, the noted furniture designer, however. McCobb boldly predicts: "I foresee the prefab competing with the auto industry for No. 1 place in the next 20 years."

## II. Postwar Phenomenon

Prefabs date back many decades, but they are essentially a post-World War II phenomenon. The first push came from the Fair Deal Administration, which looked upon prefabricated housing as a possible panacea to all housing ills. Government aid took three forms:

• Federal-guaranteed market contracts, under which the government agreed to buy unsold prefab units at cost.

• Priority aid in securing materials—extended to 280 companies in 1946, for example.

• Loans to prefab manufacturers. Ill-fated Lustron Corp. received some \$37.5-million from the Reconstruction Finance Corp.

• **Public Distaste**—Despite this help, prefabs didn't move far from the starting line. Right from the first, manufacturers ran smack into an apparently insoluble problem: The public thought prefabs were cheesy.

So in 1947, when the government ended its largesse, the prefab industry almost fell apart. In 1946, 35,000 prefabs were built by some 350 manufacturers; when the government pulled out, all but 75 manufacturers moved out with it. By 1948, the industry's output was down to 30,000 homes—only 4% of single-family starts.

It wasn't until the manufacturers themselves buttressed their finances that prefabs began to climb. National Homes, for instance, which had refused government loans all along, set out to help dealers get money. At the time, recalls one Chicago banker, "banks were waiting to see whether prefabs would fall apart in the lot." The company established its own National Homes Acceptance Corp. to handle loans. Since then, it has made FHA- and VA-backed loans for more than

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\$400-million. Other prefab companies have followed National's lead.

• **Looking Up**—By 1950, the industry was taking heart. That year it built 55,000 houses—still, however, only 4.3% of the year's single-family starts. In the years that followed, there were slow but steady gains. Innumerable problems blocked the path toward quicker public acceptance. Many of these still plague the industry:

- Local building codes restricted prefabbers.

- Costs were hiked beyond the prefabs' actual value when local labor was employed for subcontracting.

- Companies weren't far-sighted enough to employ good architects; as a result, prefabs were boxy eyesores.

- Marketing areas were rigid.

- **Adversary**—In addition, the industry was pitted against another intruder on the housing scene—the developer. The developer was able to sell mass-produced houses, built right on the site, for as little as prefabs if the latter had to be trucked in from any great distance.

Even so, in 1955 the industry totted up sales of 93,000 homes, and in 1956, a \$1-billion sales year, it reached 94,800.

- **Industry Roster**—Now there are about 300 prefab companies—almost as many as in the fly-by-night postwar years. Tops in the field is National Homes, which expects to turn out about 17,500 to 18,200 homes this year—some 21% of the industry total. Last year its share was about 17%.

Ranging behind National—not necessarily in order—are Thyer Mfg. Corp., U.S. Steel Homes, Harnischfeger Homes, Inc. (a subsidiary of Harnischfeger Corp.), Scholz Homes, Inc., Knox Corp., American Houses, Inc., and Lumber Fabricators, Inc. Together with National, these seven concerns produce more than half of the industry's output.

However, most prefabbers are small, producing far fewer than 1,000 homes a year.

- **Management Ills**—It has taken many of these companies years to build a satisfactory management staff. Even today, there are management men who double as architects and production men, presidents and engineers, architects and financial wizards. In the more effective companies, however, there is a hard core of prefab engineers, designers, and financial brains. After learning from its mistakes for many years, the industry is beginning to solve many of its riddles.

### III. The New Approach

For example, the industry is now hiring big-name architects for new designs. National Homes offers buyers of its 1958 models Colonial styling by



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Emil Schmidlin, Contemporary by Charles Goodman, Cape Cod by Royal Barry Wills, and Southwest Modern by Reginald Roberts—with 80 different floor plans.

Marketing areas are being expanded as factories go up closer to possible sales centers. Inland Homes Corp. of Piqua, Ohio, has just erected a new plant in Hanover, Pa., because it couldn't serve the East Coast market from Piqua. Methods of interim financing have been improved by companies with their own acceptance corporations, financed by loans or revolving credit lines from banks or insurance companies.

Production costs are being whittled, too. National figures it will save 40 man hours in its 1958 line by new production techniques—giant nail hammers and machines specially constructed to cut roofing parts.

• **More Dealers**—These radical changes have won new respect from local builders. Right now, there are 7,000 dealers teamed with prefab companies; just a few years ago, there were only 3,000. To the builder, prefabs have several advantages:

• Easier access to mortgage money—if funds are scarce in one area, the manufacturer may place mortgages with institutions elsewhere.

• Rapid turnover of the builder's own capital, because construction time is so short.

• Lower prices for materials through buying in large quantities—and no distribution costs.

Many builders, of course, still shy from prefabs—partly because they don't like them, partly because prefab companies weren't providing the custom-made look many families want in a new home.

• **Filling a Need**—It was to meet this last requirement that the industry turned to selling component parts.

• **Thyer's Modular Building Components Div.** offers panels, gable ends, sliding glass wall panels, plumbing walls, fireplaces, and staircases.

• **Place Homes**, entering the field part way, sells panels, trusses, cabinets, and window and door units.

• **Richmond Homes** has established a Components Div.

• **American Houses** is selling builders standard parts above its basic house package.

Other companies scrambling into the selling of parts are Admiral Homes, Inc., Hodgson Homes, Inc., and Pease Woodwork Co., which started selling sub-assemblies in a small way in 1938.

• **Disagreement**—Not all prefab companies are convinced the move is in the right direction. Don Scholz, of Scholz Homes, follows the Gunnison tradition: "I see the possibility of selling certain unusual items (kitchen cab-

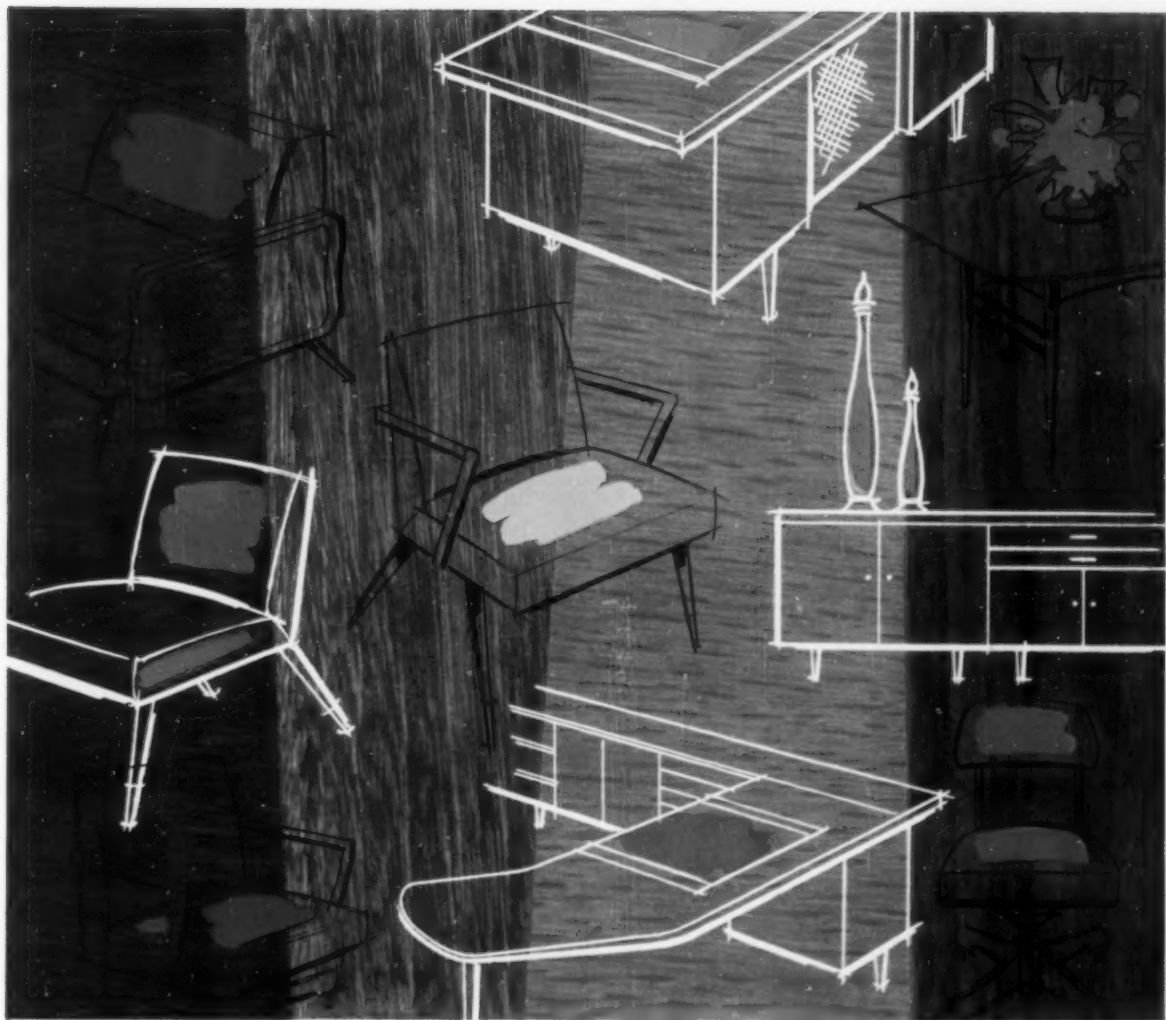


Illustration Courtesy of WOOD OFFICE FURNITURE INSTITUTE

## How a resin glue broke an Egyptian bottleneck

Since the time of the Egyptians in 3,000 B.C. woodworking had been a labored handicraft paced by slower setting, hot animal glue.

Then modern research revolutionized woodworking by introducing high-speed resin glue. This and the development of automatic turning, carving and sawing machines put wood furniture making on a modern production line basis.

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inets, built-ins), but I can't see selling lumber packaged in the form of panels. That's not what this business is about. We're selling a complete package, of which design, merchandising, and financing are all a part."

The big problem, according to one executive, is to include enough basic items in a shipment to cover overhead costs of their design and engineering. The industry can't afford to throw away the standardization of production that has enabled it to make big savings. That's why even some of the mavericks shy from one of Thyer's proposals—a plan to set up a number of supermarkets to display and merchandise house parts much as merchants now handle auto accessories.

• **Middle Ground**—Perhaps the happy medium is National Homes' attitude toward components. It scoffs at selling them on a small scale. "We're geared for a mass production operation," says George Price, executive vice-president. "We've got to deal big to make it pay off."

## Auto Dealer . . .

. . . finds that crime pays, but only up to a point. H. J. Caruso's slippery sales methods have tripped him up.

"The World's Greatest Automobile Dealer" is out of business after 10 frantic years in Southern California during which more than 40,000 new and used cars were sold. H. J. ("He's the Greatest") Caruso, 35, is awaiting sentence, probably to San Quentin Prison, for grand theft and forgery.

Caruso's meteoric career fizzled last April when the Los Angeles County Grand Jury indicted him on 19 counts of conspiracy, forgery, and grand theft, along with 10 of his office managers and salesmen who had manned his four places of business (Compton, Pasadena, Long Beach, and North Hollywood).

• **More Squawks**—Newspaper coverage of the grand jury hearings brought several hundred additional complaints concerning Caruso's business methods, and he was charged in a new indictment with 25 more felonies. Sixteen of his aides, including some previously indicted, also were charged.

Caruso pleaded guilty to two counts on each of his two indictments, and six of his associates pleaded guilty to one count each. The remainder submitted the decision on their guilt or innocence to the judge. The remaining counts will be disposed of after sentencing Nov. 8. Caruso could receive as high as 48 years in prison.

Thus ended one of the most ag-

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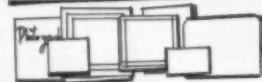
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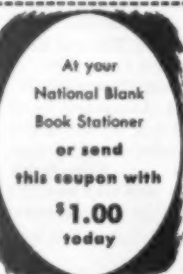
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**"... the customer found he was committed to smaller trade-in allowances and larger payments ..."**

STORY starts on p. 65

gressive sales operations in Southern California's business history, an operation that had plagued law enforcement agencies, the Better Business Bureau, and other groups interested in keeping clear the conscience of private enterprise.

• **Prime Example**—Caruso's career is being held up by the Los Angeles Better Business Bureau as a prime example of how not to conduct a sales enterprise if you're interested in satisfied customers and a long-time operation.

Caruso's customers, by the dozens, testified before the grand jury that he and/or his men induced them to sign contracts in blank, which were later filled in with exorbitant figures and quickly discounted; switched agreements; misrepresented deals; seized customers' own cars not intended for turn-ins and quickly sold them off the lot while the prospect was kept busy discussing terms on a new-car purchase.

• **Salesmen's Textbook**—Caruso's most enterprising gimmick, however, was his personally conducted "school" for salesmen. The grand jury heard details on this from a woman employee who became disgusted and quit after a month.

The "school" worked this way: Caruso instructed his salesmen never to let a prospect write down any figures discussed during a "deal." Some customers insisted on doing this, but Caruso had a way of frustrating the prospective victim. If they write some figures down, he told his student salesmen, break the point of your own pencil, throw it down and grab the customer's pencil or pen so that he cannot continue his own notations.

In the event the customer came up with another pen or pencil, the salesman was to mouth so many and such conflicting figures and terms that the customer would become confused and unable to retain any worthwhile data.

If customers declined to sign blank contracts, the salesman was to fill out several contract forms with figures that varied from one another until the prospect was confused, and switch them rapidly so that the victim eventually would inadvertently sign one which could be altered or filled in to Caruso's advantage later. As a result, the customer found he was committed—over his own signature—to smaller trade-in allowance on his own car, larger and more payments on the new one, and other obligations.

• **Crackdown on Advertising**—Caruso,



**IDEAS for profits from Monsanto's "House of the Future"**

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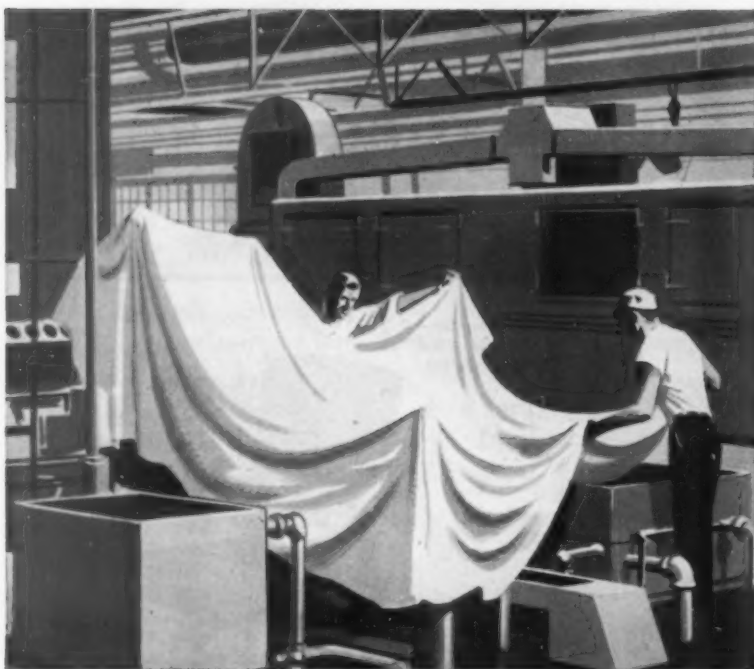
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**" . . . other car dealers are under investigation for switching contracts . . . "**

**STORY starts on p. 65**

as his business methods became known, found it impossible to buy space in Los Angeles metropolitan newspapers, and utilized radio and more recently TV to present his pitches to the public.

In this connection, the National Assn. for Better Radio & Television filed a complaint with the Federal Communications System in Washington for revocation of the license of TV station KCOP, Los Angeles. Among complaints by the group, which has headquarters in Los Angeles, were the continued use of Caruso advertising after he had been indicted on conspiracy, forgery, and grand theft.

Caruso closed the doors of one of his branches, Freeway Pontiac, in Pasadena, on July 15, a month after his second indictment. His Compton operation is now called "City of Cars," where BBB checkers were interested in frequent paging of "Mr. Osurac," which they said reminded them of the sales pitch for Serutan, "Nature's spelled backwards."

• **End of Career**—Under a recent amendment (effective Sept. 11) of the California Vehicle Code, Section 202 now provides that the Dept. of Motor Vehicles will refuse to issue a license to do business in cars to anyone convicted of or who has pleaded guilty to a felony involving automobile sales. In addition, the auto makers are now free to cancel his franchise. These franchise agreements specify the reasons for cancellation, and indictment is not included. Factories never move against a dealer until he is convicted. All this would appear to bar Caruso from active participation in the field in which his 10-year sway brought him a widespread reputation.

• **Success Story**—How did Caruso's methods work? All right, evidently. Figures show an increasing business in new cars for each of the years covered in the indictment. In 1954, he sold 950 new cars and trucks; in 1955 it was 1,067; and in 1956 he sold 1,200. For every new car, he sold an additional four or five used cars. That would make his total average sales around 5,000 cars a year for the last three years. That's not bad considering his Compton and Pasadena places are off the "main stem" of Los Angeles' automobile rows.

Other car dealers in the Los Angeles area are under investigation for switching contracts and for having customers sign blank contracts, and at least one more indictment will be handed down this month. **END**





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AEC's new engineering test reactor is designed to study the effects of neutron radiation on structural materials and operating equipment contained in reactors.

## Big Reactor Provides Best-Yet Nuclear Tool

**AEC's new engineering test reactor will supplement, but not replace, its five-year-old materials testing reactor.**

Some 200 scientists and technical men gathered last week near windswept Arco, Idaho, for a glimpse at a new atomic reactor. The visitors represented industry, government, and education. They were seeing more than just another reactor. Most saw the Atomic Energy Commission's new engineering test reactor (ETR) as the finest developmental tool yet to be made available to builders of nuclear power plants.

The ETR comes pretty close to being just that.

The five-year-old materials testing reactor (MTR), located only a few hundred feet from the ETR at AEC's big national reactor testing station, is the only other U.S. reactor built expressly to test materials and components for atomic power plants. The ETR, thanks to the development of nuclear science over the past five years, is a far more sophisticated device.

• **For Bigger Jobs**—The ETR enjoys several advantages over the older MTR. Most important are that it will be able

to handle the larger test jobs, complete them faster, and, in some cases, come up with more accurate results, despite the fact that both reactors cost the government about the same amount—\$17.3-million for the ETR, \$18-million for the MTR.

Both machines were built to study the effects of neutron radiation on structural materials and operating equipment contained in reactors. Neutrons released by the fission reaction pose some of the most vexing problems that reactor builders must solve.

First, the neutrons must be kept inside the core of the reactor where they can cause more fissions in the fuel and maintain the reaction. So reactor builders are constantly searching for improved materials for this job.

Again, the search is intensive for materials for use inside the reactor—coolants and coolant tubing, alloys for fuel, structural materials to support the fuel rods—that will not break down under neutron radiation. Neutrons have drastic effects on many normal structure materials. They make some brittle, and subject to sudden breaking. They corrode others rapidly. In some materials, they form gases that destroy the shape of any component in which these materials are used. Distortion is an especially serious problem in fuel

elements; it can freeze them tight in the reactor core if not detected in time to remove the offending element.

• **Testing Zone**—There is only one way to make certain that fuel elements and other vital components will stand up in a reactor. That is to try them, or the materials of which they are fabricated, in a testing reactor that can simulate the kind of roughing up from neutrons they will get in the reactor they are to be used in.

In a few types of small research reactors, this is not so much of a problem. So many of these reactors have been built that materials requirements are pretty well known. Tests of equipment are still necessary, but they need not be so exacting as far larger reactors.

• **New Breed**—The big reactors now being built or designed for the generation of electric power and for ship and aircraft propulsion are something else again. All are designed to generate vast quantities of neutrons. So radiation effects are certain to be drastic, and materials and equipment must be carefully tested.

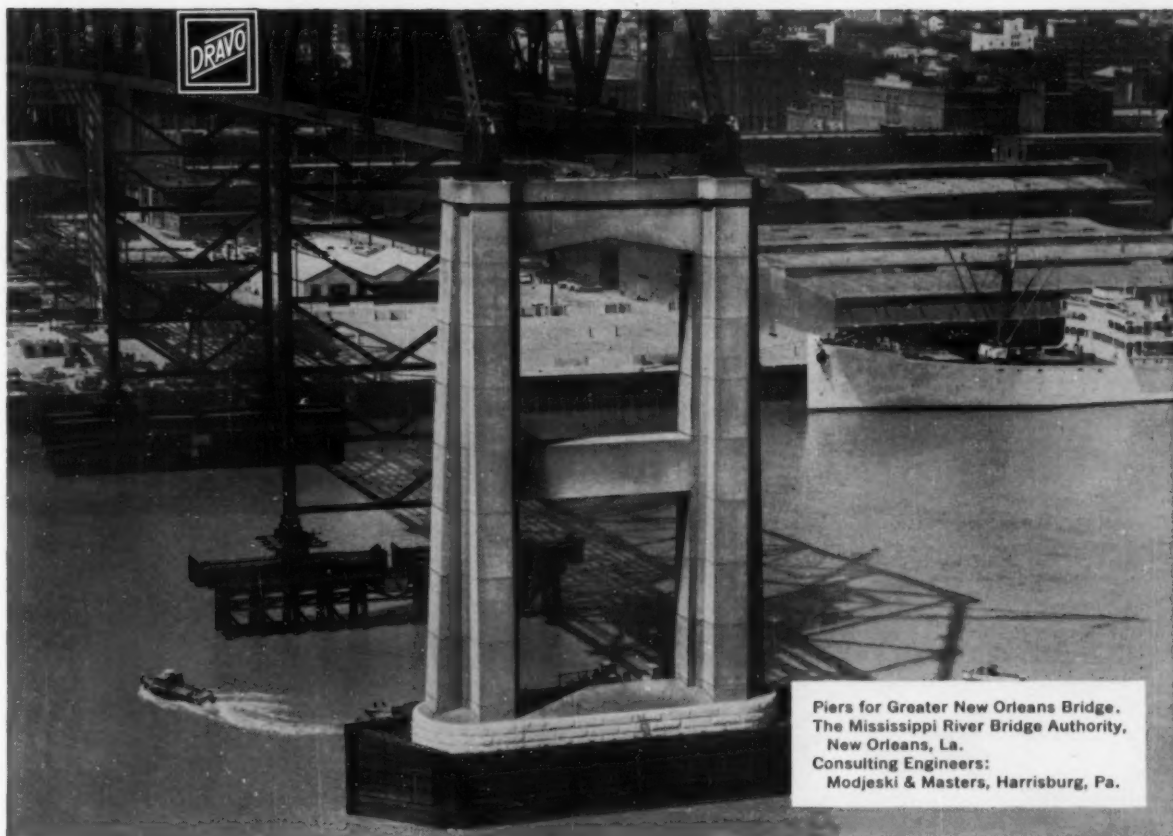
Again, these big reactors vary widely in types. That is, they employ different fuels, different coolants, different structural materials of many sorts, or different combinations of the same components. Reactors of types previously built are being built larger. So individual tests must be made for each.

• **Easing the Logjam**—As long ago as 1954, AEC decided the MTR wouldn't be sufficient to handle all the demands for inside-reactor tests. Two years ago, it contracted with Kaiser Engineers Div. of Henry J. Kaiser Co. to build the ETR. Phillips Petroleum Co. undertook the general design of the new reactor. The reactor core and controls were designed by General Electric Co. Phillips Petroleum operates both the MTR and ETR.

By the time the new reactor was started, AEC was almost swamped with requests for test space in the MTR. Priorities were set for the most desired spaces—those closest the reactor core. Top priorities went to urgent projects such as submarine and military aircraft reactors. Even so, some of the priority users had to wait two or three months for space.

Though the ETR will ease this logjam somewhat, the relief may be only temporary. W. Kenneth Davis, head of AEC's Reactor Development Div., estimates that at least four additional reactors will be needed between now and 1962 to handle tests just for government atomic projects. He figures several more will be required for civilian projects. By 1980, he estimates, about 17 large testing reactors should be in operation.

• **Industry's Job**—An apparent paradox



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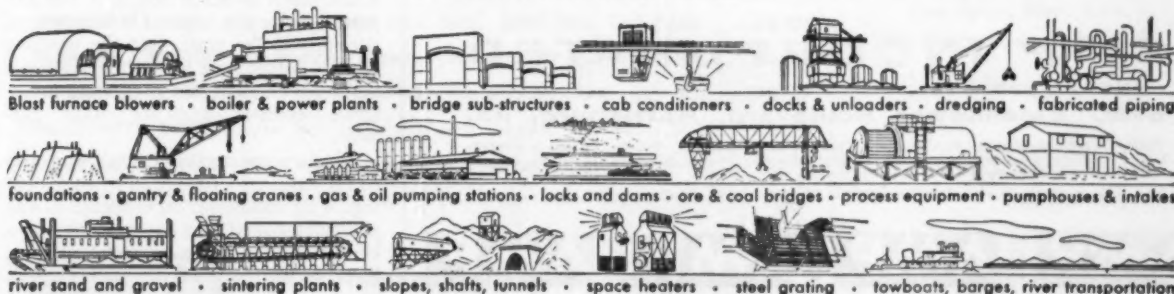
Extending 162 feet above low water and 180 feet below, this pier of steel and concrete will serve as a stepping stone for a new bridge across the Mississippi River at New Orleans. From it a four-lane highway bridge will take a giant step of 1575 feet to the next supporting structure on the opposite bank.

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piers were constructed by Dravo at a cost of almost \$7,000,000. Similar work on such notable sub-structures as the Natchez, Mississippi, and Newark Bay bridges, helps explain Dravo's reputation for difficult construction "in and around water."

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**"... the MTR has a greater capacity for individual tests of smaller size ..."**

STORY starts on p. 70

is that the commission has determined to build no more testing reactors—for the present, at least. A spokesman says that the need for such machines is now so well established that private industry should step in and build them. Presumably, space in such machines would be rented on a time basis, just as AEC rents space in the MTR and ETR.

Several industrial groups seem to agree. Westinghouse Electric Corp. already is building a testing reactor near Pittsburgh. General Electric will build another near Pleasanton, Calif. Several other companies are seriously considering similar projects, including a group composed of Kaiser Engineers, Phillips Petroleum, ACF Industries, Inc., and Lockheed Aircraft Corp.

• **Extension of MTR**—Although the ETR overshadows the older MTR in many respects, it obviously was designed to supplement, rather than replace its predecessor. The MTR has a greater capacity for individual tests of small size. The ETR takes up where its older sister leaves off by providing space for larger test apparatus and by exposing experiments to a greater concentration, or flux, of neutrons.

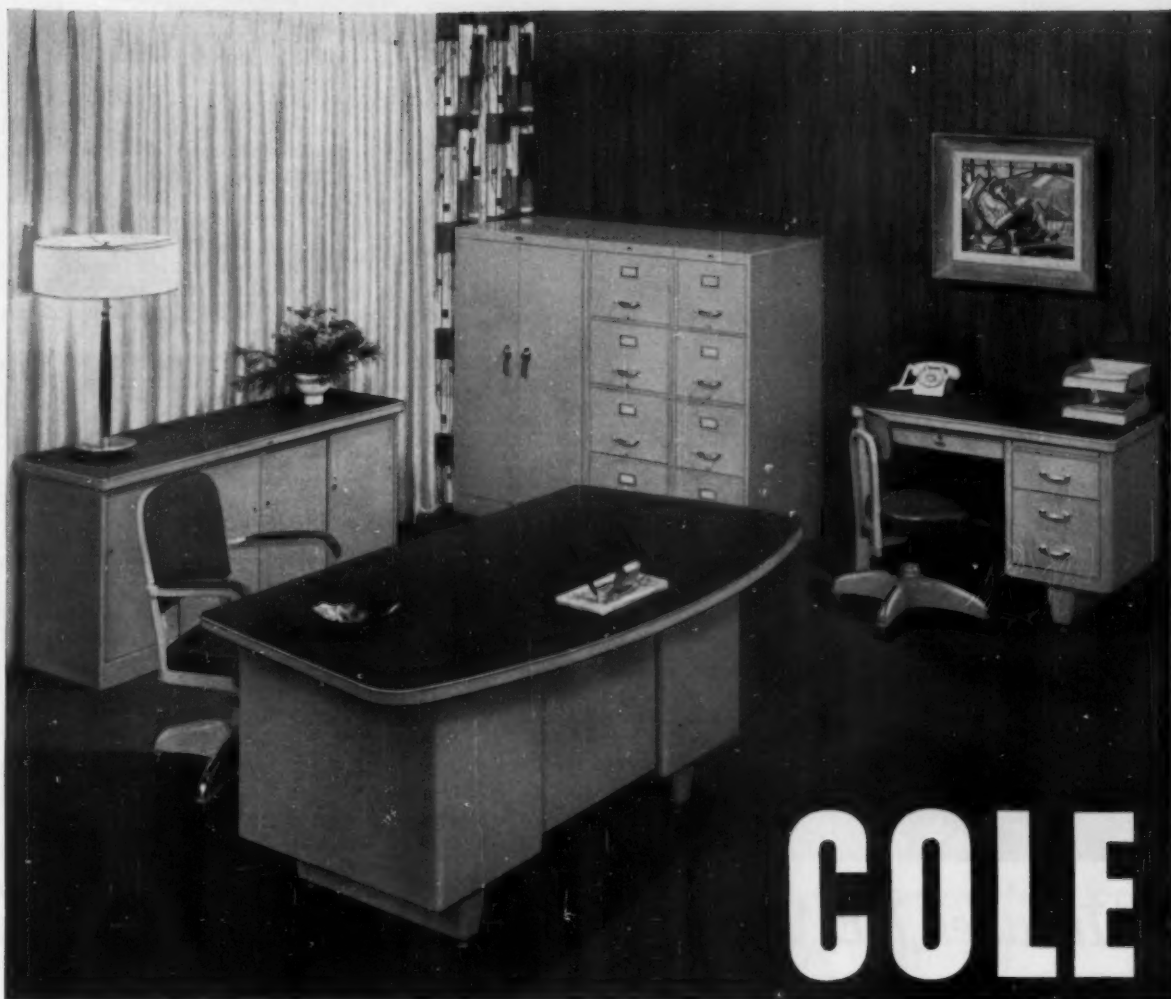
The older MTR has a cubed-shaped core, 16 in. across on two sides, 28 in. on the other two, and 24 in. in vertical length. Around this are beryllium and aluminum reflectors, solid pieces of metal, to bounce straying neutrons back into the core. The reflectors, of course, are surrounded by heavy containers to stop other radiation.

On two sides of the reactor are three channels, or beam holes, which pass horizontally through the outside shielding and the reflectors, and are open at the end facing the core. Another horizontal hole passes along one side of the core.

• **Drastic Revision**—These were the only spaces originally built into the reactor. But, as demand for test space grew, other holes were bored into the reflectors. The penetration of neutrons is not nearly so dense here as it is at the points where the original holes open on the face of the core. But the neutron density is sufficient for testing materials for small reactors, for producing radioactive isotopes, and for other purposes.

This somewhat drastic revision of the MTR required a change in its fuel loading. The additional experiments in the reflectors soaked up a considerable number of neutrons. To keep the neutron level in the core at the proper level,





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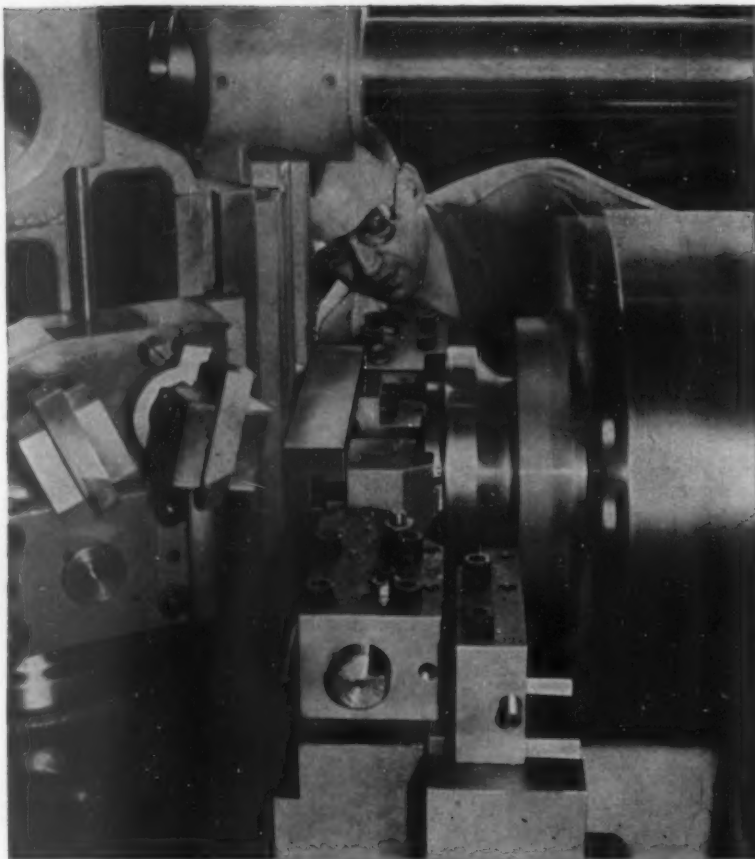
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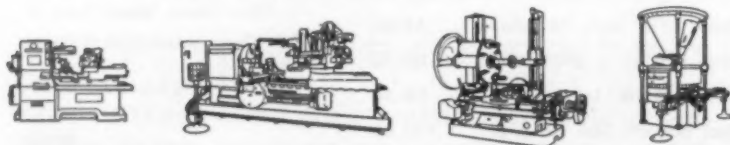
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new fuel rods containing extra fissionable material were used.

• **MTR Limitations**—Most of the MTR test spaces are only 3 in. in diameter; the largest is 6 in. So the majority of test space is suitable only for small samples of materials. Liquids and some solid materials are placed in containers—capsules—which require a further reduction in size. Equipment must be severely miniaturized, a tedious task.

Another drawback developed with the demand for tests involving heavy densities of neutrons. The desired levels are attainable in the MTR only in the seven original test spaces. And the six beam holes are only partially satisfactory for this purpose.

Still, the MTR is filled with test jobs, at times containing as many as 200 simultaneous experiments. And AEC experts expect it to remain a workhorse for all but the most exacting of high neutron flux experiments. The real purpose of the ETR is that demand for the exacting tests is mounting.

• **End Product**—From experience with the MTR, AEC and Phillips could see clearly what was needed to supplement the capabilities of the older reactor. What it amounts to is a reactor that is unique in many respects.

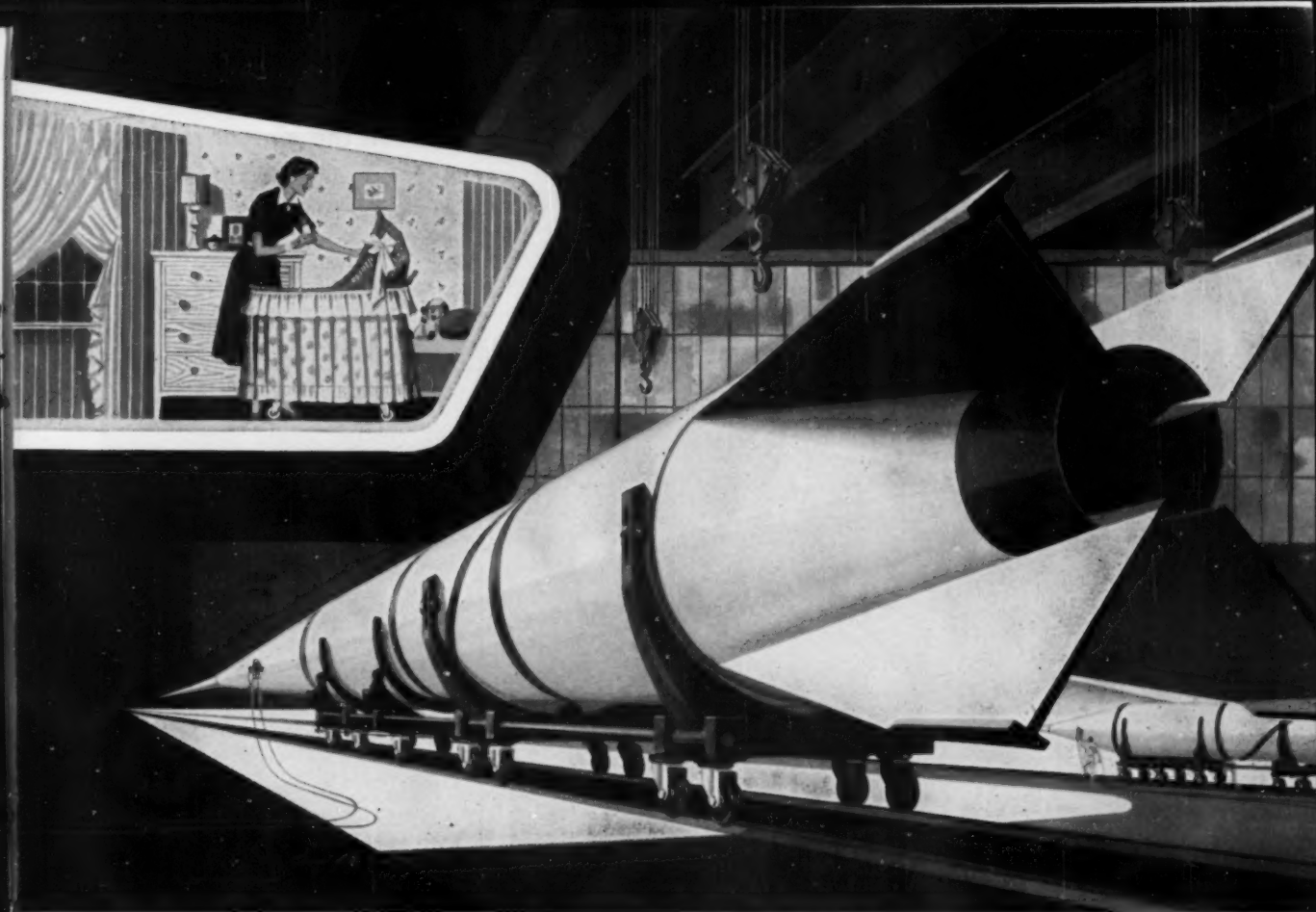
First, the ETR's core—a cube 30x30x36 in.—contains nine vertical holes for experimental work. These range in width from 3x3 in. to 9x9 in., and extend the full 36-in. vertical length of the core.

This permits the testing of comparatively sizable equipment, even complete loops with tubing and pumps contained entirely within the core or leading outside the reactor. Such circuits can be associated with auxiliary compressors and heaters outside the reactor so that liquid and gases under high pressure and temperature may be tested in the core.

• **Faster**—More important to many of the operators of the reactor is its prolific production of neutrons—it produces about twice as many as the MTR. This results in more severe testing and in speedier operations. The reactor has such neutron intensity that within hours or days it can produce effects on test materials that are equivalent to those that would be produced by weeks or month in other reactors. Thus, in a week or so, the builder of a power reactor can tell how his fuel elements, say, will stand up during months of service.

More accurate measurements of radiation effects also are possible because of the vertical in-core test holes. The intensity of radiation is more even throughout the 36-in. length of the holes, since they are entirely within the core, instead of partly outside it.

The ETR also has test spaces built into its reflectors for tests requiring



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**"... all the glamor jobs will not be diverted from the MTR . . ."**

STORY starts on p. 70

less intensive neutron densities. This will relieve the heavy load of this kind of work on the MTR.

The size of the experimental holes in the new reactor indicates the kind of experiments that will be conducted in it. It is already planned to use these to test the gas coolant system for a new reactor soon to be built. Tests of liquid metal coolants are also planned.

• **Typical Jobs**—Typical of the kind of experiments run in both the testing reactors was a test of organic liquids in the MTR. North American Aviation, Inc., had contracted with AEC to build a reactor cooled and moderated with such material (BW—Sep. 14 '57, p. 140). The organic materials are carbon-hydrogen compounds. As moderators, they slow the neutrons produced in the process of atomic fission; and as coolants, they circulate in a liquid state through the reactor core to absorb heat and carry it outside to heat exchangers.

On paper, the organic approach looked good, seemed to promise some significant advantages in reactor operations. But the materials had to be tested to see if they could be safely used in a reactor and to determine the extent—if any—to which they deteriorated under intense radiation.

Tubing was rigged through one of the experimental holes in the reflector of the MTR. Then each of several organic liquids was pumped through this loop. Result was that several liquids were found to be sufficiently stable. One of these now is being used in the organic-type reactor completed by North American at the Arco site.

MTR also is filled with small samples of structural materials, such as stainless steel, aluminum, and beryllium in the forms of plates or cylinders. These usually measure from 3 in. to 6 in. in length.

Some of these materials undoubtedly will be moved into the new ETR, because its high density of neutrons can produce quickly such long-term effects.

• **Workhorse**—However, all the glamor jobs will not be diverted from the MTR. Prototype fuel elements—24 in. long instead of 36 in.—for the ETR were tested in the MTR before the larger model was built. And the first plutonium fuel rods ever developed will be tested in the same reactor. They will replace the present uranium elements in the MTR as soon as they are ready—probably next fall. **END**





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His purpose, however, is not to make life easier for eager hitch-hikers out for a free ride on the first passenger-carrying earth satellite—nor has it any direct connection with space travel or with a study of effects of outer space on man.

His simulated journey into space—in the form of a laboratory "space chamber"—is part of a concentrated U.S. effort, now intensified by the successful launching of Russia's "baby moon" (page 39), to solve the problems involved in shooting missiles, rockets, and satellites up into and beyond the earth's atmosphere, and controlling them once they are there.

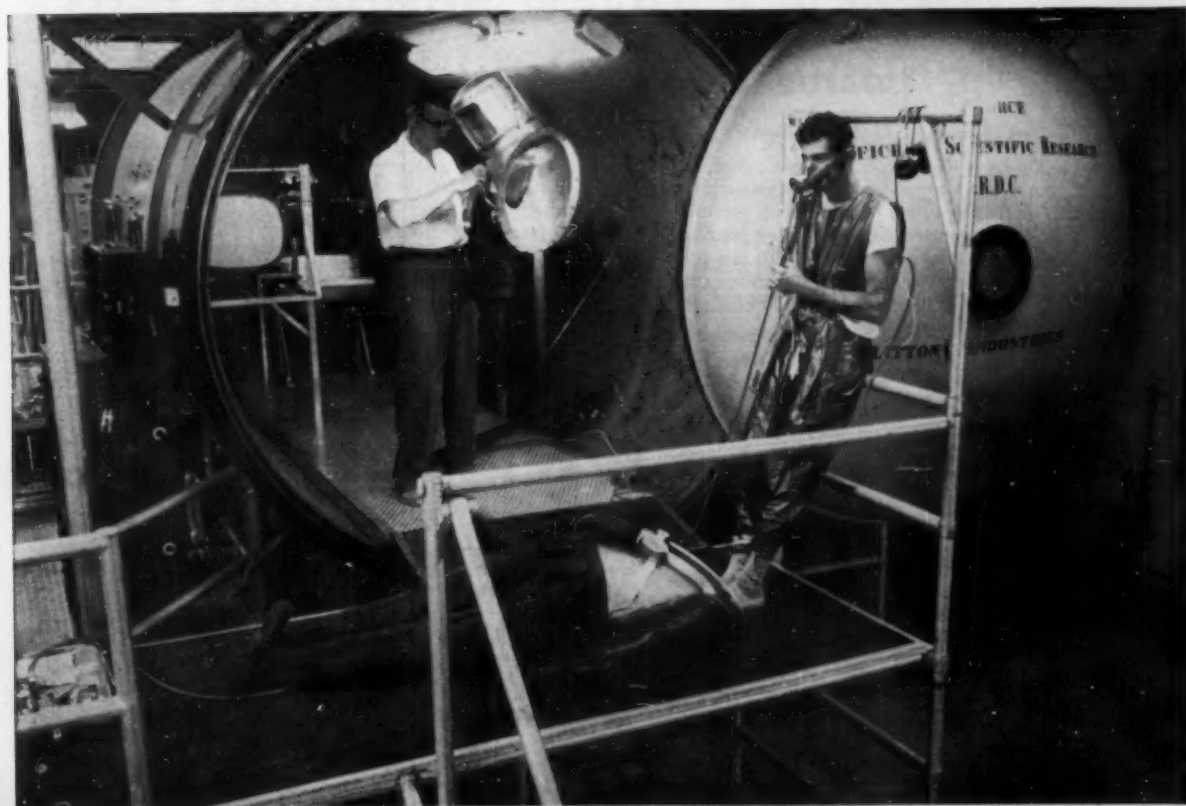
• Knowledge Needed—There's little



"FLIGHT REPORT—Technician (left) reports to lab directors Stephenson (coat) and Hansen on this latest "flight" in space chamber (below); his space suit hangs at right.

PREPARING for simulated space flight, technician Allen Le Vantine starts breathing oxygen; he'll don lower half of space suit (at

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**"... from a military standpoint, it's vital to know what will happen to missile equipment in outer space ..."**

**STORY starts on p. 78**

doubt that right now the most pressing research effort in the U.S. centers around these problems. Before scientists can completely succeed with missiles and satellites—let alone make a start on the more romantic but far more remote project of sending up manned space ships to circle Mars (BW—Mar. 2 '57, p. 70)—they must learn a lot more about conditions in space.

For one thing, there's the problem of the changes in the atmosphere as a missile or satellite speeds away from the earth's surface. Anything—or anyone—that ventures out into space must be equipped to survive and function in a thinning atmosphere, and even, in the further reaches of outer space, in a total vacuum.

What it is vital to know right now, from a military standpoint, is this: Just what will happen to all the electronic and mechanical equipment that is being put into rockets and missiles as these wing through the unaccustomed atmospheric conditions of the ionosphere. That's the wide band of atmosphere extending from about 50 miles above the earth's surface to about 250 miles above it, in which air molecules become electrically charged ions.

• **Finding the Answer**—It's here that the overstuffed suit and the space chamber come in. To make it easier to find out what will happen to rocket and missile components, Litton Industries, Inc., of Beverly Hills, Calif., has developed the free world's only "habitable" high-vacuum laboratory—the only one in which a man can work inside the vacuum chamber itself. Previously, all such research had to be done by remote control, from outside a lab.

Litton's lab, set up under a contract with the Air Force's Office of Scientific Research, has been in actual operation only a few months. But already, it is opening up broad avenues of investigation into conditions in and beyond the upper atmosphere.

Litton, a bit leery of being accused of too much "blue sky" research in connection with its space chamber, shies away from the "Buck Rogers" aspects. The company strongly emphasizes that man himself is not currently the subject of experimentation inside the space chamber; the point is not to find out how it affects him. He and his space costume are simply the more expensive pieces of apparatus used to investigate the effect of vacuum condi-

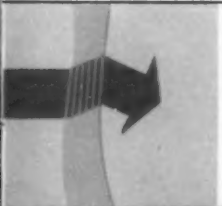




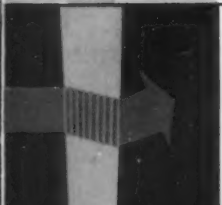
To simulate the mirror effect you see in a building's windows, we put black composition board behind the glass in these two frames — sheet glass at the right, *Parallel-O-Plate* at the left. The reflections tell the story.

## That reflection waves a warning to anyone building a building

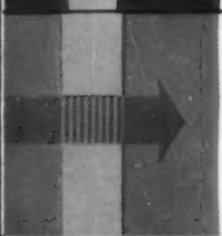
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Now, see the clean-cut difference in the glass on the left. The reflection is straight and true, because it's Libbey-Owens-Ford *Parallel-O-Plate*® Glass — *twin-ground* for more freedom from distortion. It makes a building truly handsome, looking *at*, looking *in*, or looking *out* the windows.

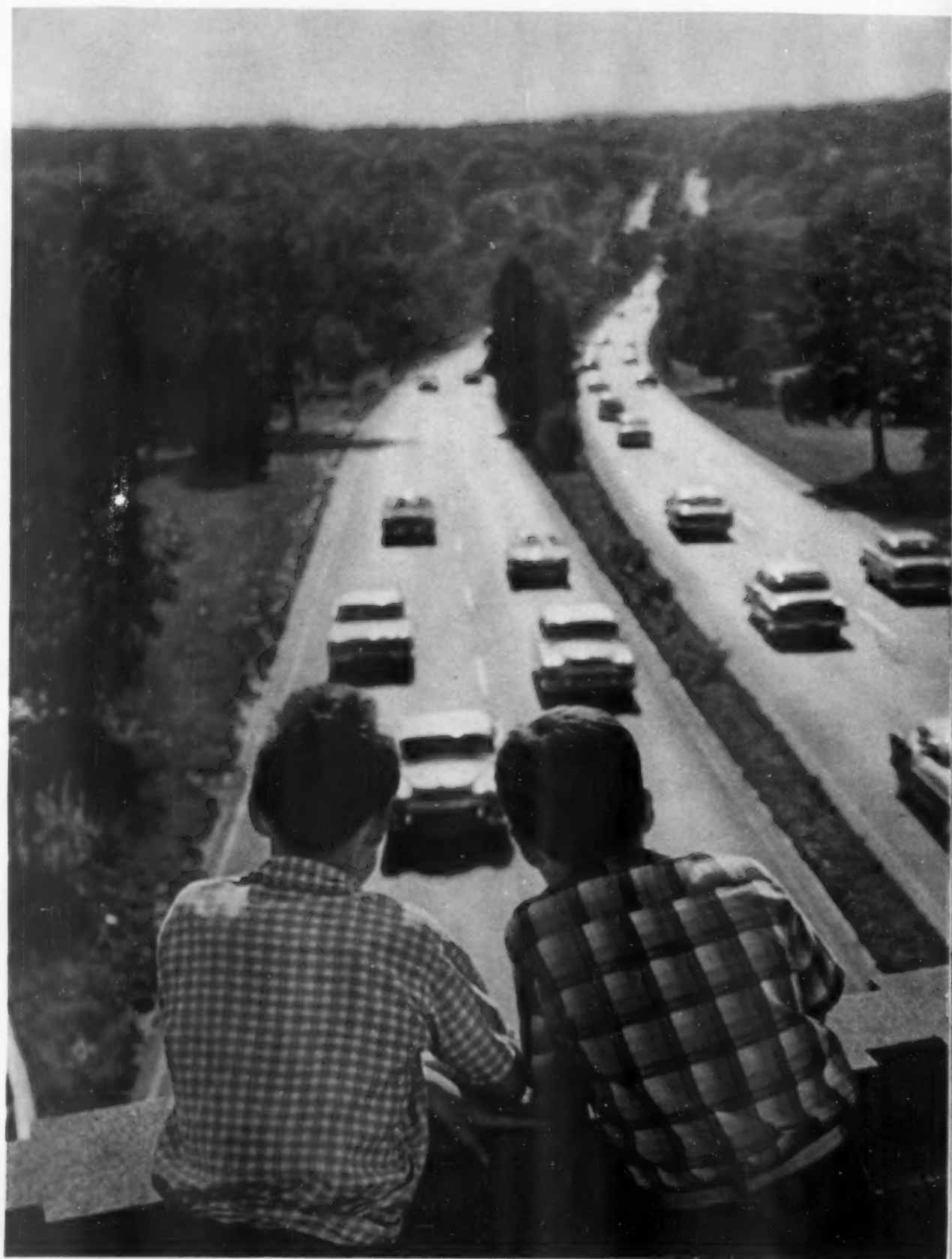
So, when it's time to decide on glass for *your* building, remember the warning of the distorted reflection you see above. Agree with your architect when he recommends *Parallel-O-Plate*. It costs a little more than sheet glass, but it pays you a big dividend in pride and satisfaction.

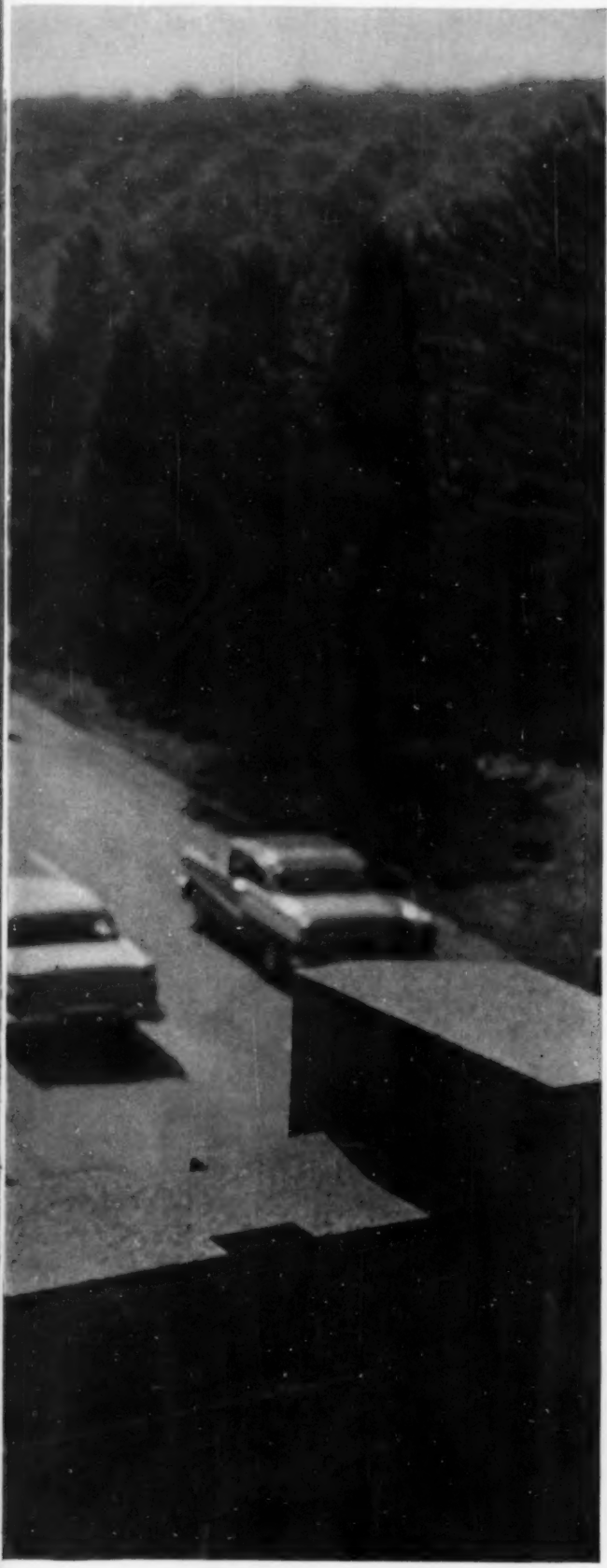


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**"... Litton's space chamber — manned — has been pumped out to an equivalent altitude of 90 miles..."**

STORY starts on p. 78

tions on materials and items of equipment.

• **Big Advance**—But the presence of a researcher inside the vacuum chamber instead of outside makes a vast difference in studying the effects of high-altitude conditions on, say, vacuum tubes, lubricants, metals that exude gas at high altitudes, or frictionless joints.

Take the study of an electron tube and its components. A typical electron tube consists of a collection of grids and filaments arranged in certain patterns, and enclosed in a glass envelope from which air has been pumped. Electronic tubes, and new types of light bulbs also, have had to be developed slowly and painstakingly. Each time a new component or a new arrangement of components was tried inside the glass envelope, the vacuum inside it had first to be destroyed in order to set up the new model, and then created again by pumping out the air.

Litton's lab makes this step-by-step procedure obsolete. In effect, it expands the glass envelope so that a man can be enclosed inside the vacuum along with the components to watch their behavior. He can change their pattern as many times as is necessary, and arrive, in a fraction of the time previously required, at the best tube structure.

Time saving is not the only advantage. By being right on top of the experiment, instead of watching it from outside as a remote spectator, a researcher is in a position to observe minute or fleeting phenomena that might otherwise escape him. "In some fields," says Litton, "these accidental or unexpected occurrences lead to 90% of the discoveries made."

• **Fantasy Brought to Earth**—No matter how much the science fiction aspects are played down, however, there's an aura of fantasy about a space chamber into which a man can climb and find himself soaring in effect 90 miles above his fellow researchers a few feet away on the outside. As it's now operating, the chamber has been pumped out to the point that it contains only one out of every 18-million of its original molecules of air. That thins out its atmosphere to the equivalent of an altitude of 90 miles.

Unmanned, the space chamber has been pumped out even more—to an equivalent altitude of 140 miles; and Litton believes its occupant can eventually go "higher" than 90 miles.

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"They were a lot more vital than the buildings which we insured for fire. Or our machines. Finding a new man, training him, paying for his errors while he's working into the job—it's a real dollar-and-cents problem.

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ing about it. I looked into all kinds of plans.

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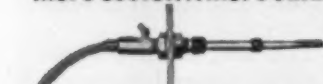
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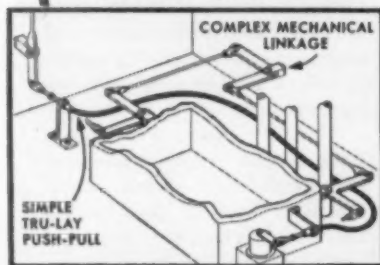
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chamber, the suit that must be worn inside it, and a host of machinery grouped around the chamber. These pump air out of it and back again, feed oxygen to the researcher inside, draw off body heat, and monitor the conditions inside the chamber and the physical condition of the researcher.

The chamber, custom-fabricated for Litton by Lacy Mfg. Co., is actually a rolled steel plate cylinder lying on its side, 15 ft. long and 8 ft. in diameter.

• **Fashions in Space Travel**—The special suit that protects the researcher would make any would-be space traveler envious—but more for its practicality than its style. It's a combination of rubber and fabricated aluminum parts, and weighs 50 lb. The inner suit, made of rubberized nylon, is similar to pressure suits worn by fliers at high altitudes. The outer suit—or vapor suit—is made of a special natural rubber compound that has been freed of all volatile elements that might corrupt the purity of the vacuum in the chamber.

In dressing for a vacuum, the hitch is that the air inside your suit may make it so rigid, when it's in a vacuum, that you can't move. To get around this danger, the Litton vacuum suit has jointed aluminum ribbing that enables a man to bend his limbs.

This permits him to do almost anything he wants inside the chamber—walk about, write, use tools, move the components of a tube or other parts of the experimental setup. He's only slightly encumbered by the bulk of his suit. But he does have to be careful to guard against any accident to the suit or to his air hose.

Through his air hose, the researcher breathes almost pure oxygen. This is also used to cool him. That's one of the big problems of a space suit designer—how to remove normal body heat, which is of course increased by any physical movement. As the gas inside the Litton suit heats up, it is drawn off and passed through refrigerated brine.

• **Precautions**—As in any work carried on in other-than-natural environments, there is some element of danger. If the suit should break down and expose him to the almost total vacuum around him, he would be unconscious in five seconds, seriously injured in 90 seconds, probably dead in a few minutes.

To guard against this, there must be a means of pumping air into the vacuum very quickly—yet not so fast that the rush of air could produce a concussion that might burst the researcher's eardrums or cause other harm. The suit is kept at a normal operating pressure of 5 lb. per sq. in. on the average. Litton has developed a means of bringing the chamber to that pressure in three seconds if the suit should fail, then bringing it down to "earth" (or

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normal average pressure of 14.7 psi.) in about 40 seconds.

All experiments conducted by researchers inside the Litton space chamber are monitored by a qualified flight surgeon (the common practice in any altitude chamber work). The surgeon monitors the researcher's heart beat, respiration rate, and blood pressure.

• **Many Uses**—Litton's use of the chamber since it became operative last June has been primarily for electron tube development—at least as far as public announcements go (there are probably other missile research projects that the company can't talk about).

How Litton is using the chamber so far is exemplified by its work on the Chromatron color television tube, on which the company recently acquired industrial and military rights. The Chromatron makes possible radar presentations involving selective color displays. It can be used in air traffic control, military terrain clearance, and air-to-ground identification.

Litton has been using the vacuum chamber to help find more quickly the best shape for one of the Chromatron's key components—called the post-acceleration focusing electrode—which focuses the image on the TV screen. The tube, minus its usual glass envelope, is mounted inside the vacuum chamber, so that the researcher can shift its components around at will, observe first-hand what happens when the tube is activated, and make changes as fast as he finds them necessary.

• **In the Works**—Up to now, Litton has not used the chamber for development of other electron tubes. But on the basis of the Chromatron experience, its executives estimate that use of the chamber could cut future tube development costs anywhere from 20% up.

Also in the realm of actual plan or future possibility are:

• A series of experiments now being planned on high-altitude lubricants. The tendency of most standard lubricants to vaporize or otherwise lose their lubricating properties at high altitudes has long been a headache to rocket and missile designers.

• A study of the effect of various rays—X-rays, ultra-violet rays, intense sun rays of high altitudes, other rays that exist in outer space—on equipment carried on any particular space vehicles.

• In the distance is the vast extension of the chamber's possibilities when it can be used to test the effect of space conditions on man himself.

The Air Force's Office of Scientific Research supplied about 65% of the \$600,000 cost of the high-vacuum lab, and Litton the other 35%. At present, Litton has nine men working with the chamber, under Siegfried Hansen as technical director, and Albert Stephenson as administrative director. **END**

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American Standard Atomic Energy Division

"If we were asked to state a single reason why we selected Santa Clara County, it would be very difficult. The fact that this was the center of nuclear learning played an important part. Naturally, our Atomic Energy Division could benefit greatly by this proximity. Another factor was the healthy growth trend evidenced in this community. We were also impressed by the excellent living conditions which seemed important in maintaining maximum worker efficiency. Actually, it was the combination of many advantages which influenced us in making this choice."

E. B. Hammond, Manager,  
Sperry Gyroscope's Sunnyvale Development Center

"A large number of our Air Armament Division customers are located in western states thousands of miles from our home office in Great Neck, New York. To avoid excessive liaison costs for western development work, we decided to establish a centrally located developmental facility in the western area. Santa Clara County seemed to fit this requirement best. In addition, the all-year mild climate and favorable labor conditions provided a combination of advantages we could not find elsewhere on the West Coast."

Don G. Mitchell, Chairman and President,  
Sylvania Electric Products, Inc.

"Our choice of Santa Clara County, California, was based on the excellent combination of factors so vital to business success — specifically, its outstanding climate, opportunity for advanced education, plus the economic, political and social well-being of the area. Other equally important considerations were good schools and places of worship, progressive government, adequate health services, civic organizations, public-spirited local newspapers, recreational opportunities and suitable housing."

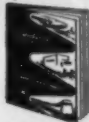


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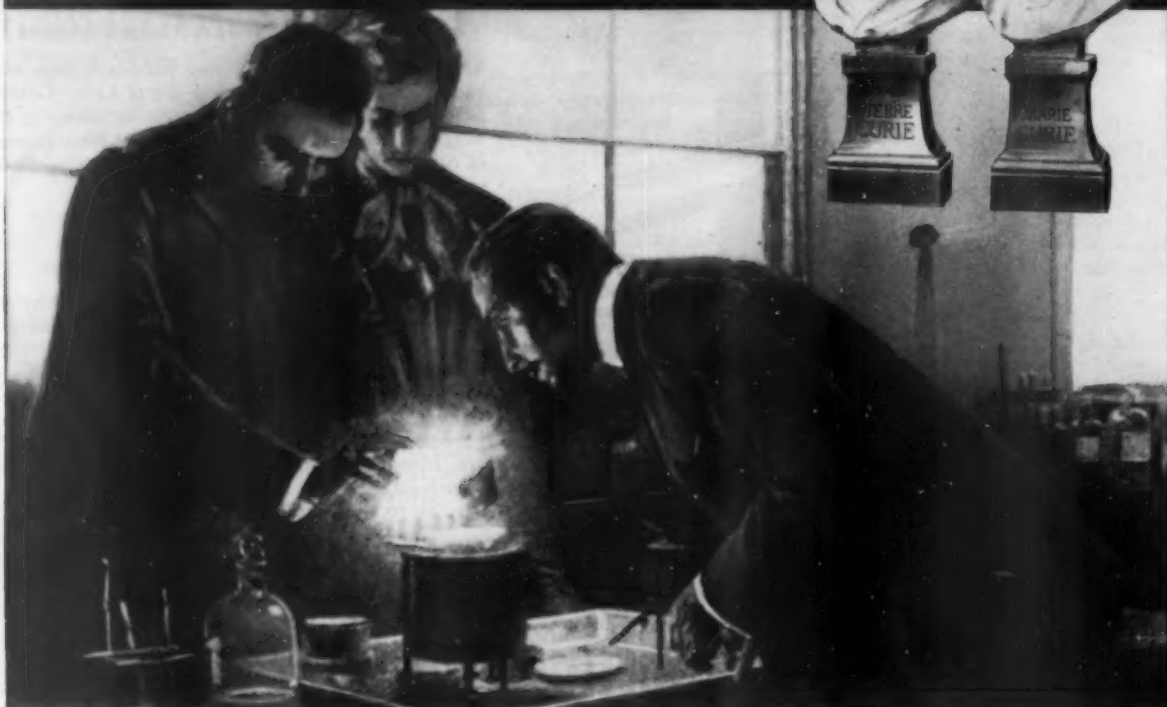


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# India Makes New Pitch for Aid

A mission to the U. S. pleads for help—including more private investment—to save India's faltering economy.

Two Indian spokesmen made the rounds of Manhattan banks and investors last week—Finance Minister T. T. Krishnamachari and G. D. Birla, chairman of an Indian trade delegation touring the U. S. (pictures, right). Both carried the same message: India must have long-term investment capital and medium-term import credits if its economy is not to flounder.

Back home in New Delhi, all high-level economic policymaking has been suspended. Government planners are waiting for the outcome of the Krishnamachari and Birla missions. On them rest the future of the Indian economy and the final result of India's Second Five-Year Plan launched so enthusiastically last year (BW—Apr. 7 '56, p. 119). It's already clear that the plan must be radically modified. What's at issue is whether the so-called hard core—expansion of steel, coal, railway, and port facilities and completion of some multipurpose river projects—will be carried through by 1960, and at what sacrifice.

Krishnamachari says he is determined to go ahead with these projects. He intends to devote all India's foreign exchange resources to them, to try to find some \$1.5-billion more in exchange to keep the rest of the Indian economy running. He warns that he must keep his eye on 1960, that he will not sacrifice the plan's major projects to save the country hardship now.

• **Overtures**—It's to this end that Krishnamachari made tentative approaches to the World Bank, the U. S. Export-Import Bank, American foreign aid officials, and private bankers during his visit to Washington and New York. The Indians have also speculated on the possibilities of a major American government-to-government loan, on the order of \$500-million, with terms similar to those of the 1946 loan to Great Britain.

While Krishnamachari has gone through these talks, Birla has been pursuing a parallel approach. He, and the group of industrialists he leads, have interviewed U. S. manufacturers and bankers on the prospects of more private investment in India. Birla seeks deferred payment arrangements for capital equipment for plant expansion, long-term credits, and, perhaps, even equity participation by U. S. companies in India businesses. That would permit the booming private sector of

the economy to continue to expand.

• **Cordial But Cool**—The Indians have found both Washington and private investors cordial. But the prospects of extensive U. S. aid are not bright. Congress—which drastically cut the Administration's foreign aid bill this year—isn't likely to smile on a huge new Indian loan. Private investors, suffering from high U. S. money rates and skeptical of Indian government policy, are cool to major new projects.

Still, the Indians are counting on a more sympathetic U. S. attitude as their crisis deepens. They believe that American self-interest must dictate a major effort to halt the erosion of the Indian balance of payments. For most Washington observers believe that if India cannot industrialize rapidly under its present democratic regime, it will move toward other methods—perhaps those adopted by the Communists as China did a decade ago.

## I. India's Problem

In a sense, India's crisis is a familiar one to Western observers: a booming economy that is eating up more imports than it can pay for. But there are significant differences between what's going on in India and what has been happening to the economies of Western Europe.

First of all, the vast expansion of the Indian economy—both the public and the private sectors—has been sponsored by the government through the Second Five-Year Plan. It set out last year to step up economic activity to the tune of an over-all investment of \$10.8-billion during the five years 1955-60. That compares with \$4.2-billion invested by the Indian government and private business during the First Five-Year Plan.

There is another important difference between India's problem and that created by the boom in the West: Indian expenditures have been overwhelmingly for capital goods. There has been no great rise in the standard of living comparable to the rise in consumption in Western economies.

• **Living on Balances**—India has been paying for this growth mainly out of its sterling balances. These are debts created by the British during World War II owed to the government of India.

You get an idea of the spending spree



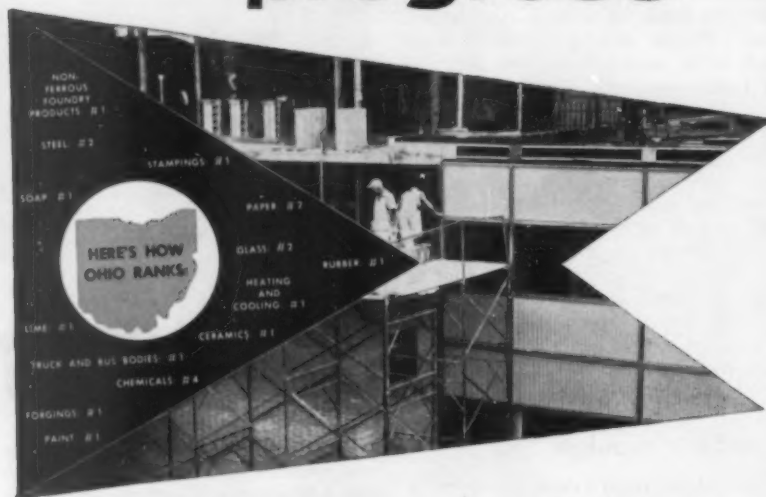
INDIAN GOVERNMENT wants long-term credit, Finance Minister Krishnamachari told government and private bankers.



INDIAN BUSINESS wants private investment from abroad, says industrialist G. D. Birla, head of Indian trade delegation.

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the Indians have been on from these figures: Since April, 1956, when the Indians began to spend heavily, they have drawn about \$840-million from the \$1.5-billion worth of sterling they held.

But this spending spree hasn't been the kind of postwar splurge for consumer goods and luxuries indulged in by the Latin American countries, which piled up huge dollar surpluses during World War II. The Indians have been buying capital goods, industrial materials for their industry, defense weapons, and food—at an ever-increasing rate. Private importers, for example, in 1955-56 spent \$470.4-million for machinery, iron and steel, metals, and vehicles; last year they spent \$749.7-million.

• **Planning Errors**—One of the most important factors in this foreign exchange drain has been the miscalculations written into the plan. For example, the Indians have had to spend \$214.2-billion for food in the last year—much more than the plan allocated. The Planning Commission estimate of the nation's food needs, based on two phenomenally good crop years (1953 and 1954), were wholly unrealistic. Furthermore, government statistics seem to be fouled up badly. They now show sufficient local food production in all but two states. Yet food prices are spiraling upward—in spite of this output at home and heavy government-subsidized imports.

Krishnamachari expects the foreign exchange drain to continue—although drastic import restrictions have slowed it down—at least until mid-1958. For example, yet to come are the heaviest expenditures for India's three government-owned steel mills (BW-Oct. 27 '56, p155). The Indians, who may be optimistic, expect a total drain of another \$400-million in sterling from reserves before it begins to level off.

## II. Coping With Crisis

Krishnamachari hopes to take some of the pressure off the economy by getting foreign assistance. Last week he had completed scouting Washington, and this is what he found.

• The U.S. foreign aid program might be tapped for another \$50-million from its reserve funds, but there is no hope of expanding Washington's \$60-million-a-year aid to the Indians without Congressional authorization.

• The Indians already have purchased with rupees \$360-million worth of surplus food commodities from the U.S. No more substantial allotment to India could be made without Congressional approval.

• A small loan at Ex-Im is being negotiated, but that probably won't be for more than \$30-million.

• The World Bank—from which

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India has been the largest single borrower—already has a big program of support for Indian railway expansion under way. It may total \$700-million. But the bank views this as a long-term loan program and wouldn't want to step it up spectacularly. Washington might help raise the Indians' credit rating at the bank by turning their 1950 wheat loan of \$160-million into a loan for local currency. But that again would take Congressional action.

This week the Administration planners seem to be more optimistic about the possibilities of a government-to-government, long-term loan. A figure around \$300-million seems more realistic than \$500-million. However, there is not yet an Administration decision to tackle Congress.

• **Help Elsewhere?**—Krishnamachari goes on this week to talks in London and Bonn about loan possibilities there.

There is little hope in London. India's heavy sterling withdrawals, the new 7% British bank rate, and London's own hard-pressed financial position (BW—Oct. 5 '57, p86) seem to leave no room for any helping hand to New Delhi.

Bonn—which probably received \$300-million worth of orders out of New Delhi's sterling withdrawals during the past 18 months—is sympathetic. Hermes, the West German export bank, is already underwriting \$190-million worth of credits to the Indians on three-year terms. Perhaps Bonn would be willing to extend these to longer terms. The fact is, though, that despite a lot of high-minded talk among West German industrialists about aid to underdeveloped countries, they generally want cash on the barrel-head.

Meanwhile, Prime Minister Jawaharlal Nehru is making a state visit this week to Japan. The Japanese have talked of \$35-million credit but terms are not agreeable to the Indians.

### III. Squeeze on Private Sector

It's too early to see what kind of picture will emerge from all these negotiations. But it is clear that the private sector of India's economy, which Birla and his group represent, may have to bear the brunt of the planners' snafu and the austerity import program. (The private sector has been expanding at something like five times the rate the planners expected.) They hope to mitigate the effects of the import squeeze by getting Western investment in privately owned industry.

• **New Investors**—During the past eight months, about \$50-million worth of new private investment has materialized. This includes a firm commitment of \$27-million by three British companies in a cement machinery



manufacturing plant, by Vickers Armstrong in an aluminum plant, and by Baldwin Co. in a tractor and shovel plant. U. S. concerns have put \$6-million in drug manufacturing.

Other investments are in the works. Philips of Eindhoven and General Motors are considering participation in Birla's Hindustan Motors, possibly for a total of \$8-million. Cabot Lodge of Boston is negotiating for participation in a \$10-million carbon black plant in cooperation with Indian textile magnate Kastubhai Lalbhai. Reynolds Metals is considering participation in an Indian aluminum project. Otis Elevator Co., Firestone, Imperial Chemicals, Dayton Rubber Co., Stella Batteries, all now operating in India, have expansion plans.

• **U. S. Guarantees**—The Indians hope a recent agreement between New Delhi and Washington, providing guarantees for American investors through the International Cooperation Administration, may move private capital into India.

But whether new private investment in India will be substantial enough to pay India's import bill is doubted, both in Washington and New Delhi. The restrictions on personal income, the call from other investment areas—notably Canada, Latin America, and Western Europe—and the "socialist" atmosphere in New Delhi political and economic planning circles all tend to discourage the U. S. investor.



## New City-to-Port Link

Colombia's mountain-bound economy will get a big boost when the Atlantic RR (shown under construction above) is completed in 1960. The Colombians are at about halfway point in their construction of the 600-mile system, one of the most difficult ever built in Latin America. It will link the country's major cities and Caribbean ports. **END**

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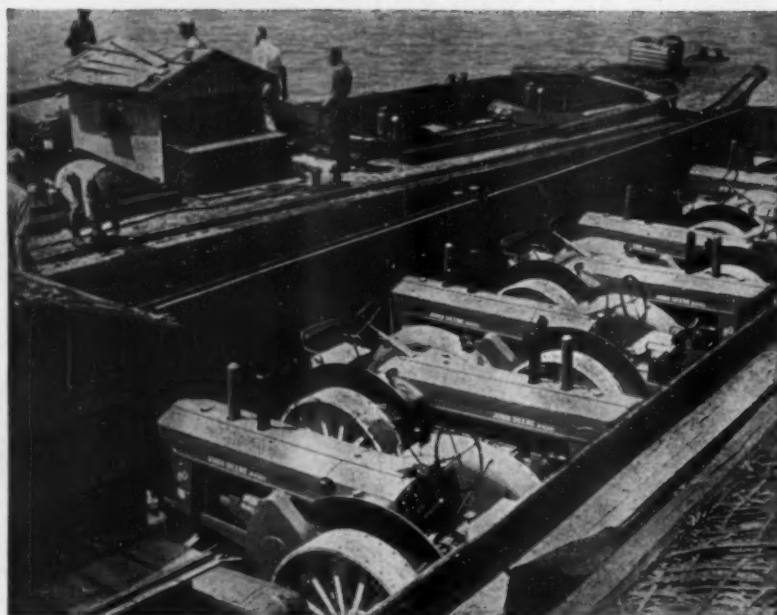
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U.S.-MADE farm equipment arriving at Vietnam has to compete with lower-cost machinery of foreign manufacturing subsidiaries. To gain a better foothold abroad . . .

## Deere Steps Up Its Campaign For More of Overseas Market

Not long ago, Deere & Co. supplied tractors and farm equipment to overseas markets solely from stateside plants (picture). Then, dollar-short countries began throwing up roadblocks to slow up tractor imports. Deere soon saw its overseas markets going to competitors that had established foreign manufacturing subsidiaries.

Today, Deere is hustling overseas to make up for lost time. It has already beefed up sales to export markets by buying a controlling interest in Heinrich Lanz AG, one of West Germany's largest tractor producers. It is building a tractor plant in Monterrey, Mexico.

This week, the company is on Argentina's doorstep waiting for the provisional government to announce a decree that would break the monopoly over tractor production now held by four West European producers. The minute the government opens the door to free competition in the tractor field, Deere will move in with \$3-million—the biggest single investment by a U.S. company in Argentina in the past two years—to build a new tractor plant. With an additional \$9-million of outside financing, Deere will move fast to grab a piece of this rich South American tractor market.

• **Lure of Foreign Sales**—Even with other new subsidiaries abroad—possibly in Britain and Australia—Deere is not

banking on its foreign production to supply all the company's export markets. Last year's overseas sales from the U.S.—though small—amounted to \$12.4-million. Deere expects this year's overseas sales will be 20% higher, partly because of the purchase of Heinrich Lanz. And by 1959, when the overseas plant program begins to pay off, Deere thinks its sales abroad will become a major phase of its total business.

The lure of foreign sales stems from a combination of factors. Deere's sales in the U.S. are picking up—probably 20% higher this year than the poor showing of \$313.5-million in 1956—but they are still slow compared with the big growth period right after the war. Then, there's the problem all tractor producers face of rising production costs here, with somewhat lower costs abroad. Most of all, Deere is eyeing the vast, almost untapped markets in underdeveloped countries. In Asia, for instance, there are only 70,000 tractors (against 4.5-million in the U.S.).

• **Industry Slump**—After World War II, Deere was doing fine. It rode along on the upsurge in sales caused by pent-up wartime demand. Between 1946 and 1951, the company tripled sales, from \$133-million to \$396-million. During that period—and later—it set up its Dubuque tractor works, bought a war plant near Des Moines,



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began fertilizer production. But by last year, industrywide production had slumped from the 1951 peak of 770,000 units to 273,000. The U.S. tractor market was fast becoming mostly a replacement market.

Deere was in a vulnerable position. Unlike competitors such as International Harvester, the top tractor producer, and Allis-Chalmers, Deere was not a diversified company, partly for lack of capital. Thus, while many competitors boosted total sales between 1955 and 1956—with the helping hand of non-farm sales—Deere's sales slid. Deere concentrated on the home market, did not have a network of strategically placed plants overseas for selling behind tariff and currency walls.

• **New Lines**—Deere had blueprinted its first major move overseas in 1951 when it laid plans for production in Scotland. But the British government ran out of money for helping Deere foot the bill. Finally, in April, 1955, the company set up a large sales branch in Mexico City. The following September it organized a subsidiary in Venezuela to handle manufacturing and sales outside the U.S. and Canada.

A year ago, Deere made the plunge in Western Europe—one of the fastest-growing tractor markets—by paying some \$7.5-million in cash for a 75% interest in West Germany's Heinrich Lanz. Like many of Germany's 85 or so tractor producers, Lanz has pushed exports hard, selling to over 75 countries. By buying a big concern (annual sales between \$25-million and \$37-million) rather than building a new plant, Deere figured it could boost its overseas income in one swoop.

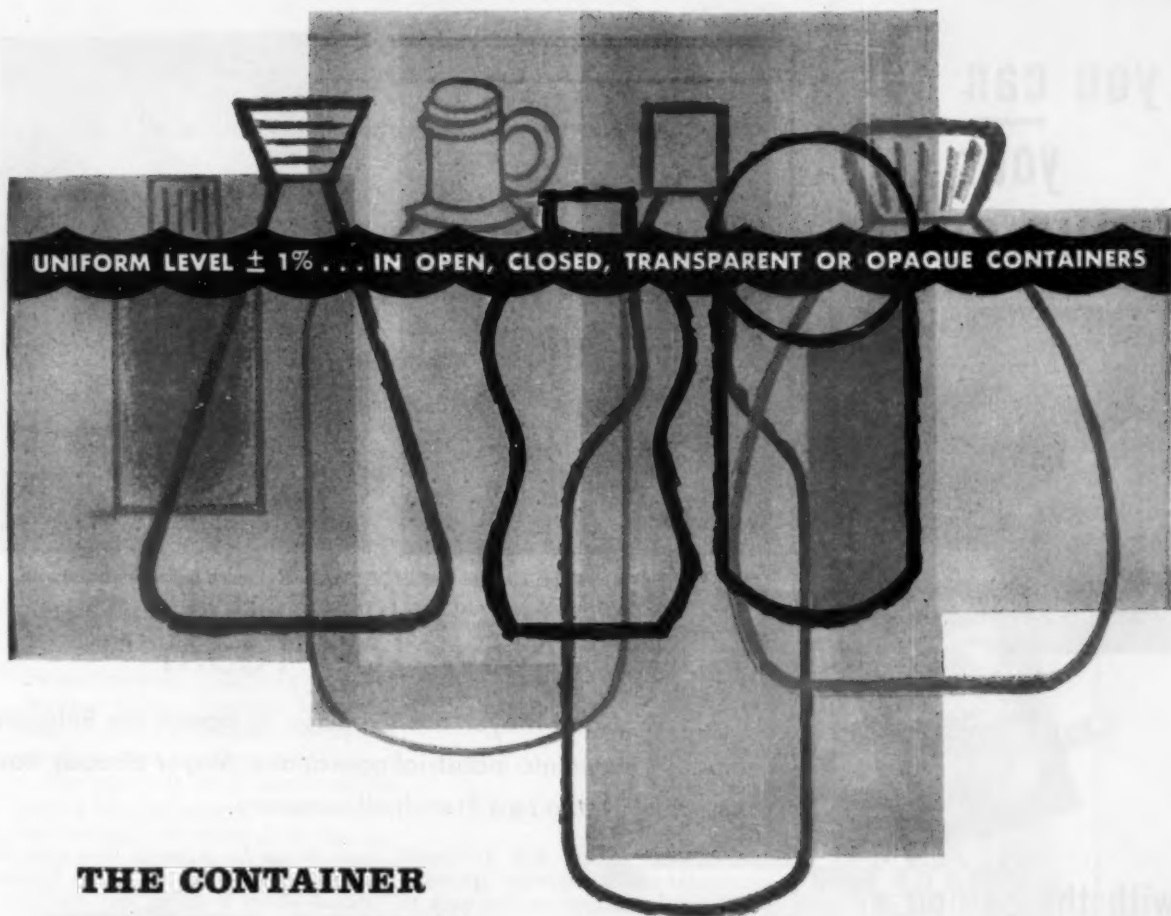
• **Gold Mine**—The brightest prospect now is a fast move into the Argentine market. Over 40% of the country's 70,000 tractors are obsolete or run-down. It's one of the few countries where Deere would not have to spend big money modifying its tractor models to suit local conditions.

Before World War II, Argentina was Deere's No. 1 export market. But by 1952, under Dictator Peron, Argentina had closed the door on Deere and other outsiders—except for a select few. Peron gave importing and production rights to Italy's Fiat and West Germany's Hanomag, Deutz, and Fahr.

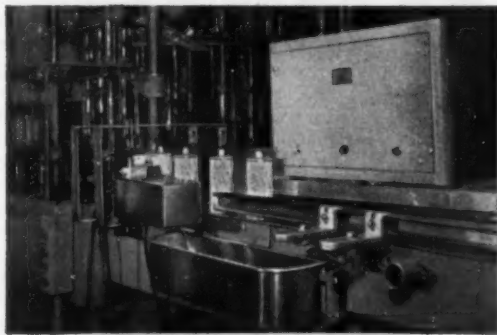
As soon as the government publishes the free-competition decree—expected any day now—Deutz and Fahr, the two smallest producers, may drop out. That would leave the field to Fiat, Hanomag, Deere, and possibly International Harvester (which has been doing some Deere-type spadework, too).

Despite this array of producers to face, Deere is optimistic. It will probably locate its new plant northwest of Buenos Aires, aim for a production goal of 3,000 or 4,000 tractors annually. **END**





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MAURICE FRERE, Belgian banker, and RENE MAYER, French industrialist, make up...

## Sofina's New Top Team

Frere and Mayer are expected to hasten the Belgium company's move into industrial operations. Mayer already has connections with a new French oil company.

A Belgian banker and a French industrialist-turned-politician (pictures) quietly got board approval this week to take over the helm of Sofina, the sprawling, international investment and holding company headquartered in Brussels.

The two men—Maurice Frere, retired governor of the National Bank of Belgium, and Rene Mayer, who has resigned as head of the European Coal & Steel Community—take command early next year. Stockholders are expected to O.K. the changes later this month.

• **Shift to Oil**—When they do take charge, it's a sure bet—according to insiders—that Sofina will move more rapidly to get a firm foothold in industrial operations, including oil, both in Europe and Africa. During the past few years, the company has made some headway in shifting its financial interests from electric utilities, its traditional business, to oil properties (BW—May 25'57, p35). A close tie-up with Petrofina, Belgium's oil giant, is in the discussion stage.

One of the first jobs facing Frere and Mayer will be the problem of cleaning up Sofina's long-time troubles in Spain and Argentina, two countries where the company has large electric utility holdings.

In any case, the key man from now on will be Rene Mayer. He is a director of several West European oil and mining companies. Recently, he

was put up for president of a new oil company, Eurafrep, set up by Lazard Freres—which is diving into the competitive scramble for Sahara oil.

• **New Setup**—Here's how Mayer fits into Sofina's new management line-up:

• The company's board has split up the chairmanship of the board itself and of the policymaking, six-man executive committee—both of which Rene Brosens headed, mostly as an absentee living in Uruguay or Argentina.

• New board chairman will be 67-year-old Maurice Frere, a power in international financial circles.

• Chairman of the powerful executive committee will be Rene Mayer. This will be a comedown for Charles K. Wilmers, Sofina's British-bred managing director, who often ran the committee in Brosens's absence. Other key committeemen: Baron Lambert of Belgium's Banque Lambert, which heads a group of investors that backed Frere's appointment; Christian Valensi, senior partner in the investment-banking house of Lazard Freres, which influenced the choice of Mayer; and Albert Linder of Credit Suisse.

• **Mayer's Role**—Inside sources say that the executive committee under Mayer will play a bigger part than before in charting Sofina's future course. He can throw Sofina's weight behind Eurafrep, which has Sahara concessions. Sofina already has a \$240,000 investment in the \$15-million Eurafrep. **END**

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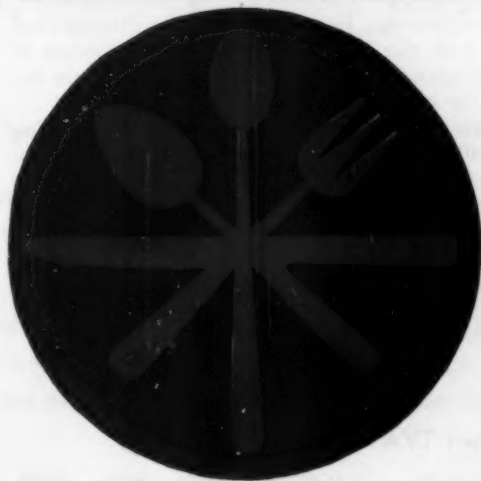
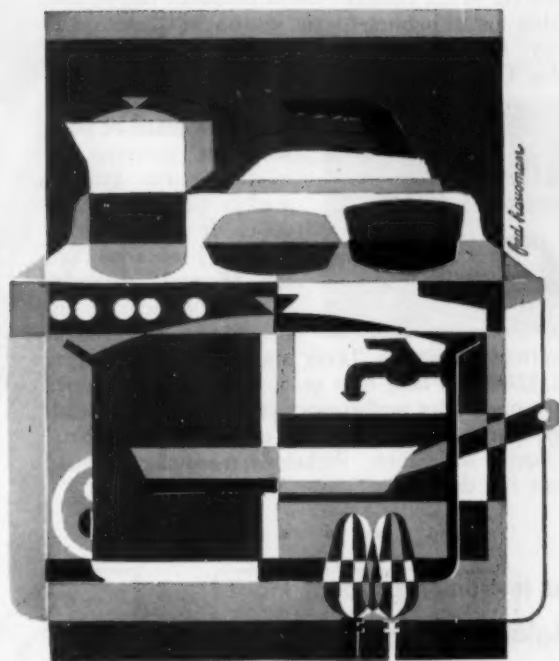
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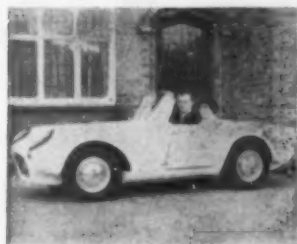


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# In Business Abroad

## New Entry in U.S. Small Car Market Aims at Fun Rather Than Utility

As foreign-car sales in the U.S. grow larger, the new entries seem to get smaller—not in numbers, but in size. The latest model bidding for the second-car market is the Berkeley sportscar (picture), produced by Britain's Berkeley Cars Ltd. It's a light (650 lb.), tiny, low-



priced (\$1,600 to \$1,700) car mostly made of glass-reinforced, polyester resin—the same material used in Chevrolet's Corvette. It gets from 40 mi. to 55 mi. a gal., can top 85 mph. Berkeley Cars has signed up distributors and dealers in

Connecticut, California, Texas, and Florida, and expects to sell 5,000 cars here next year. The company thinks the car's price—plus performance—will appeal to the college-age sportscar market. Is the car utilitarian? "No," says Charles M. Panter, Berkeley's managing director, "it's just fun driving it."

## Texas Instruments Opens Plant In England to Supply Sterling Area

Texas Instruments, Inc., of Dallas went international this week with the formal opening of its new plant at Bedford, England. The British plant will produce for export to the whole sterling area.

It's Texas Instruments' first foreign manufacturing operation although its international subsidiary, Geophysical Service, Inc., maintains offices at strategic points around the globe. In all, there are 17 offices in both hemispheres offering geophysical services on contract to oil companies.

The Bedford plant is a wholly integrated operation—everything from the growing of crystals to an advanced line of transistors and related devices.

## Iran's Own TVA Project Gets Going, With Boost From Lilienthal, Clapp

Iran's TVA-type project for developing the country's southwestern Khuzestan region is rolling into high gear.

This week the Iranian government put the job of running the vast project in the hands of Development & Resources Corp., a planning-engineering company set up in 1955 by David E. Lilienthal and Gordon R. Clapp, both former TVA chairmen, along with Lazard Freres & Co.

The company's 74-man staff in Iran will supervise plans for a huge, 460-ft.-high dam on the Dez River, 150 mi. north of the Persian Gulf. The \$60-million project, financed out of Iran's oil revenues, will provide electricity, flood control, and irrigation in Khuzestan. Development & Resources will also handle the construction of a sugar mill and refinery, plastics plant, electric power lines, and a gas pipeline in the same region.

## India Tots Up Its Lions, Hoping To Bag the U.S. Hunter's Dollar

India—looking for ways to earn more foreign exchange (page 89)—has a new lure for American tourists: Big game hunters may soon hunt lion in Gir forest, overnight from Bombay.

Right now the Indians are taking a census of the lions in the forest, squirting dye at them with noiseless air guns to avoid repeaters, or the chance of counting any roar twice. Three years ago the census was taken by using pugmarks—footprints. Hunting has been prohibited since then, but probably will be reopened soon since the lion population reportedly has climbed quickly.

## Britain's Trade With Russia Way Up, End of Strategic Controls Urged

Britain's exports to the Soviet Union this year may top \$112-million—about 50% over last year. J. B. Scott, chairman of the Russian section of the London Chamber of Commerce, has pleaded for the abandonment of strategic controls. Scott says if that were done, Britain's Russian exports would boom even more.

"I am absolutely convinced," he said, "that these controls do not stop the Soviet Union from obtaining the goods they require, which they can get from other sources." Scott said a nation that claims to have the intercontinental ballistics missile must be capable of producing the products British exporters can't get licenses to ship.

## Increasing Boom Seen for Mexico, With Economy in Best-Ever Balance

First National City Bank of N. Y. this week predicted that Mexico's boom will hit new highs this year. Furthermore, the bank report said, Mexico's economy is better balanced than ever before.

First National City said recurrent demands for a new devaluation of the Mexican peso have no foundation. Gold and dollar holdings are at about the same level as last year despite smaller crops and the drain of capital import purchases. Monetary stability is wanted now more than ever before, the banks say, and Mexico stands to gain from keeping the peso stable.





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# In Washington

. . .

## Supreme Court Convenes, Must Win Now Record Docket of Some 800 Cases

The U.S. Supreme Court this week opened its 1957-1958 term with a brief and dignified ceremony—the routine admission of new attorneys to practice before the court.

Next Monday the court gets down to real business, sorting out the 800-odd cases that constitute something of a record on the docket. About 100 of the cases had been scheduled for argument at this session when the court adjourned last June.

Normally, the court hears about 150 cases per term, which means it will have to be unusually selective in picking those where it will hear argument.

Major cases awaiting action include these categories:

**Labor.** The most significant issue is the legality of "hot cargo" clauses used by unions, notably the Teamsters, as an excuse to refuse to handle goods of an "unfair" employer.

**Antitrust and trade regulation.** In one case, the Justice Dept. is trying to salvage a monopoly suit against the Big Four soap makers, thrown out by the trial court when the Attorney General refused to let the companies inspect the minutes of a grand jury. Another case involves the Federal Trade Commission's 16-year-old effort to pin charges of illegal price discrimination on Standard Oil Co. (Indiana), under the Robinson-Patman Act.

**Racial integration.** Cases range from state appeals from the school integration decrees of federal courts to an appeal by the National Assn. for the Advancement of Colored People from a contempt of court conviction in Alabama.

**Transportation.** Truckers are particularly interested in the appeal of one trucking company that was denied a license to operate by the Interstate Commerce Commission on the ground that existing rail service was adequate. The trucker argues that this unfairly requires it to prove rail service is inadequate in order to get a license.

. . .

## Fed Examiner Bars Move to Suburbs By Big New York City Bank

First National City Bank of N. Y. last week lost a round in its battle to absorb the County Trust Co. of suburban White Plains.

A hearing examiner recommended that the Federal Reserve Board reject the merger, on the grounds that New York State's stopgap banking law controls the case. That law, enacted after the First National City hearings began, forbids a bank to extend its operations into another banking district.

The examiner's finding is the first interpretation of the 1956 federal law on bank holding companies. The law, aimed at curbing bank mergers and acquisition, em-

powers the Fed to pass on the setting up of new bank holding companies. However, the examiner held that Congress had reserved to the states their traditional authority to limit the extension of banks within their jurisdiction.

If the Fed adopts the examiner's recommendation, it will establish a precedent that the states may restrict or ban bank holding companies—as the New York law does—even if national as well as state banks are included.

Earlier, Controller of the Currency Ray M. Gidney has held that the First National City merger should be approved, despite the opposition of New York's Gov. Averell Harriman and his banking superintendent, George Mooney.

. . .

## Post Office Accepts \$3-Million Boost For Southern Railroads Carrying Mails

The Post Office Dept. has agreed to pay the Southern railroad group \$3-million more per year for carrying the mails. The roads had asked a 64% increase, but whittled it down to 13½% and settled after postal officials had sharply attacked their service at hearings of the Interstate Commerce Commission.

ICC approval is still needed for the agreement, which will be retroactive to Sept. 1 and which contains a concession by the railroads, accepting payment only for space used instead of space reserved on mail trains. It was the first boost for the Southern carriers since 1954, when they were granted a 10% raise.

With the mail issue settled, ICC prepared to hear a request by 27 Eastern railroads for higher commodity charges. The lines want increases ranging from 14¢ to 29¢ per 100 lb. on a shipment weighing less than 5,000 lb. and filling less than one freight car.

. . .

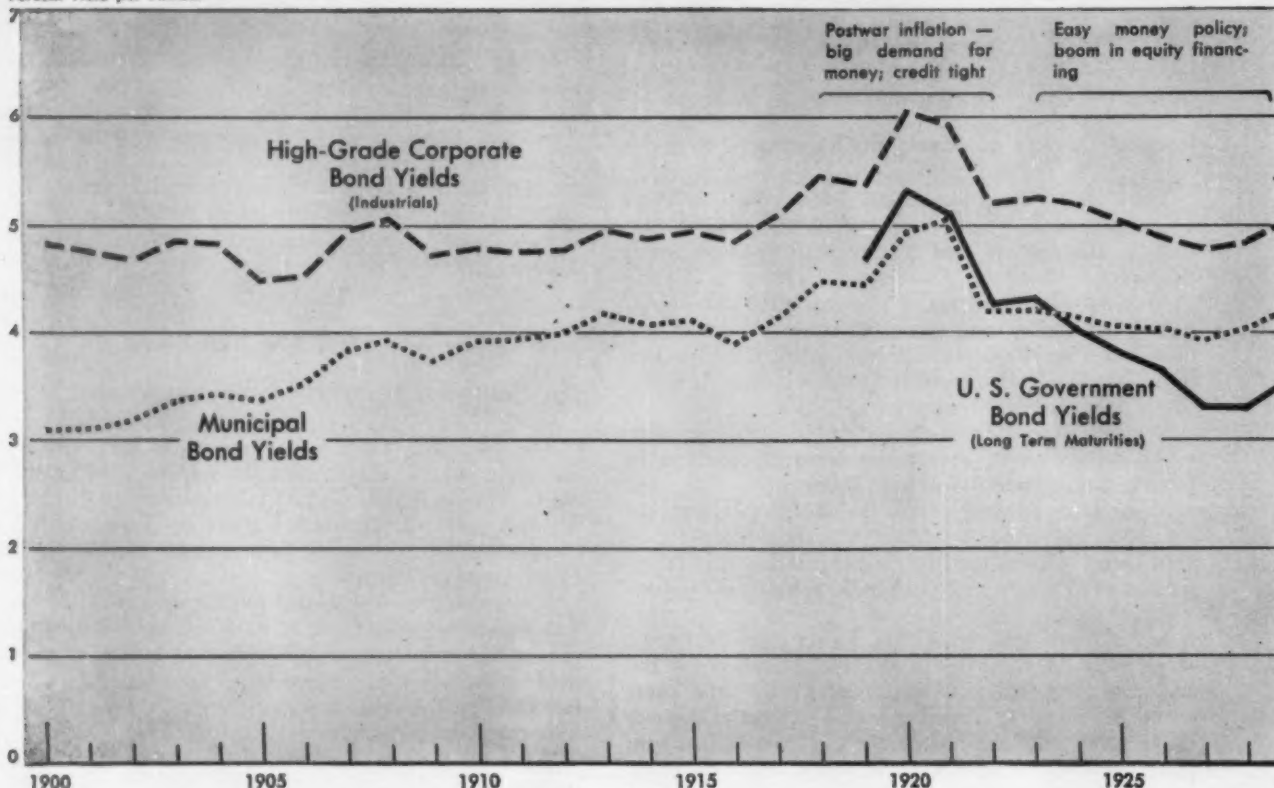
## Justice Dept. Scores Point in Fight To Bar AT&T From Two-Way Radio

The Justice Dept. antitrusters and several makers of electronic equipment have scored a point in their fight to bar American Telephone & Telegraph Co. from the business of manufacturing and leasing equipment for private two-way radio (BW—Sep. 14 '57, p. 36). The Federal Communications Commission has made the Justice Dept. a party to its hearings on AT&T's plea that FCC regulate private two-way radio, and it has agreed to consider the antitrust aspects of the case.

The background is this. In 1956, AT&T signed a consent agreement under which it is supposed to stay out of the private two-way radio business for five years. But AT&T argues that the decree applies only if the radio is not government regulated—hence its plea that FCC take over the field, which it says would enable AT&T to expand its two-way radio business.

The Justice Dept. has fought the move, saying that the industry would have more competition without FCC regulation and without AT&T. Originally, FCC rebuffed Justice, limiting its hearings to the question of its jurisdiction, and leaving out the antitrust aspects.

Percent Yield per Annum



Data: Standard &amp; Poor's.

## For Bonds, Signs Point to a Turn

After an 11-year bear market in bonds, prospects of a long-term basic shift in money supply and demand are turning many bond men into bulls. Some see a major bond market swing coming—and almost all at least a turn for the better.

Step back from this chart of municipal, corporate, and long-term Treasury bond yields, and you get a perspective that shows these major swings:

- A major bull market in bonds, lasting from 1920 to 1946, that sent prices of bonds climbing, with a corresponding slide in yields (which move inversely to prices).

- A major bear market from 1946 to the present, with prices falling and yields rising.

In 1920, for example, yields on high grade corporate bonds hit 6.01%. From then on, as prices rose, yields drifted downward until 1946, when borrowers had to pay only 2.44% for money. From that 1946 point, the bond market turned bearish; for 11 years, de-

clining prices shoved yields upward.

- **Signs of a Change**—But lately, bond prices have shown signs of firming. Prices of municipals, for instance, hit a 22-year low on Aug. 19, but have been rising ever since while yields—moving in the opposite direction—have been falling. This turnabout in prices has come despite a municipal volume that in the first nine months of 1957 topped the same period a year ago by 22%. Long-term state and municipal issues coming to market in the nine months of 1957 piled up a \$4,972,337,098 total, just a shade under the nine-month record of \$4,988,311,317 set in 1954.

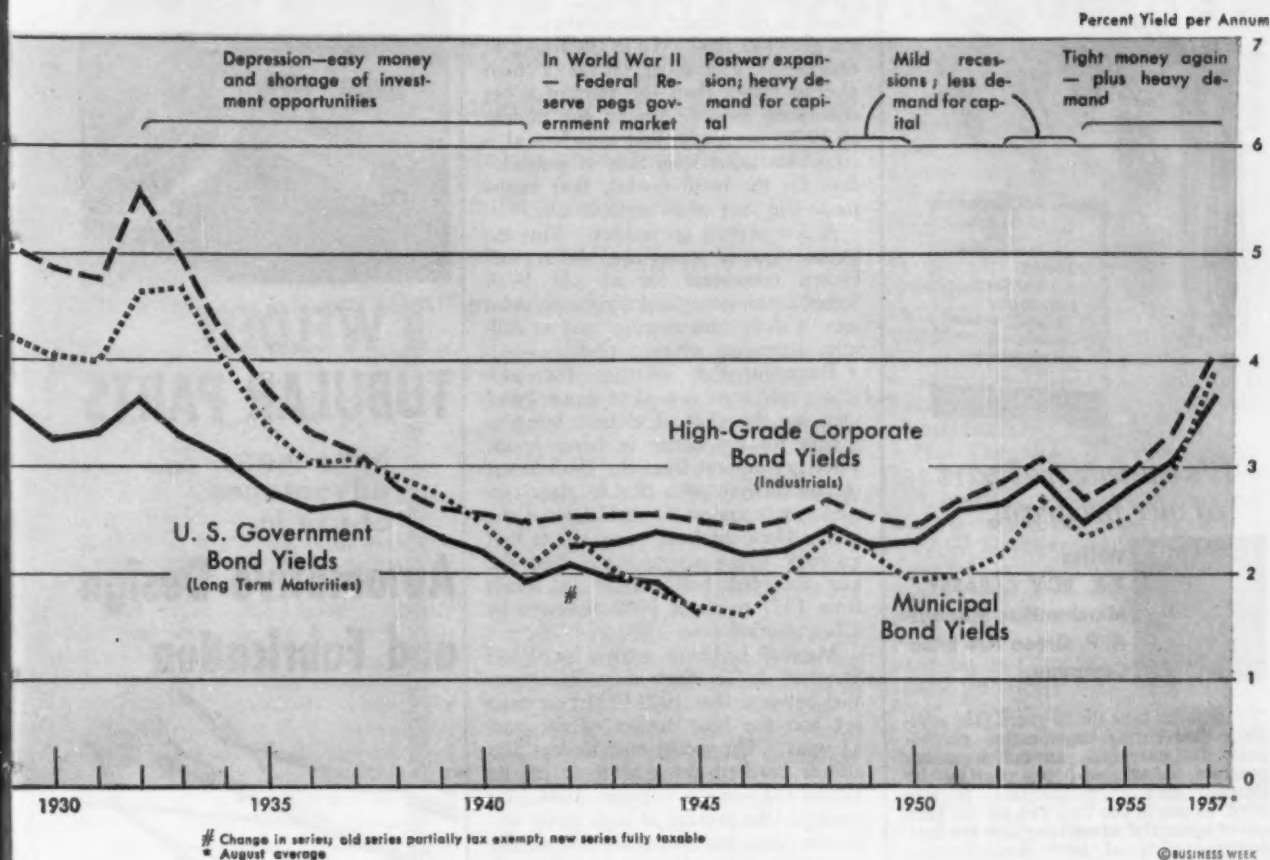
The switch has caused a buzzing in Wall Street. The heavy volume of new bond issues, which has been readily

absorbed by investors, spells a rosier future to bond men.

A major factor in the rise in yields over the past 11 years—especially in the last few years—has been the heavy demand for funds for business expansion, a demand that until now has outpaced the amount of money investors were willing to put in bonds. But there are signs that this demand will soon be easing a little—you see it in the slowing down of the rate of capital spending (BW—Sep. 14 '57, p. 23), which is traditionally followed by a dip in demand for funds.

- **Short and Long Term**—Of course, the short-term future of the money market hangs on the Federal Reserve Board. There's no question of the powerful effect of Fed action in tightening or easing the money supply. Its tight money policy has helped force bond yields up, and it will take a major switch by the Fed to turn yields around. Most Wall Streeters believe a major Fed move is unlikely in the near future.

# Bond Market



## —and the Bulls Begin to Hope

As one veteran bond man put it, "The Fed still thinks it's fighting inflation, that there's no reason to ease up on credit brakes."

Many of the Wall Streeters who are saying that a bond turnaround is in sight base their thinking on turns in long-term trends. These observers see a basic shift in the supply and demand picture. One sign of it: Last week the Fed reported a drop in business loans of \$203-million from the week before—in contrast to a \$26-million increase in the same 1956 week, and a \$90-million rise in 1955.

At the same time, the supply of money willing to go into bonds is building. Money has shifted out of the stock market into the bond market. And the growth of pension and welfare funds in recent years constitutes a major new source of investment capital.

• **How Far?**—These factors, among others, have already convinced bond dealers that they have hit a "delicate" balance in the supply and demand pic-

ture (BW—Sep. 21 '57, p181). Tap almost any one of these bond men, and you'll find a bull.

But behind their generally optimistic view ahead is a larger and more important question: Is the firmness the beginning of another major swing in the bond market?

A good many experts believe it is. • **Basic Trend**—You can't, of course, consider the bond market all by itself, without taking a hard look at the nation's economy as a whole. Traditionally, broad economic declines bring rising bond prices and lower yields.

Any number of factors can contribute to pushing the bond market in one direction or another. Those listed in the chart are only a few of the more obvious causes of its past ups and downs; others have been at work, too.

Generally, though, the prevailing economic winds affect the basic bond market movements. And right now, say economists, the winds are blowing cold.

They see the signs in the stock market decline, the tailing off of capital spending, and inventory building in some lines. Although consumer spending holds up, a good slice of the past year's gain has come from higher prices—in constant dollars, there has been a leveling out.

• **Changing Climate**—Facts like these have led most economic observers to the view that the climate of U.S. business is about to change. Most don't want to commit themselves on the length or degree of the reversal, taking a fairly conservative middle-of-the-road position until more positive signs come along.

Their view is summed up by Roy L. Reiersen, vice-president and economist of Bankers Trust Co. He told a Hartford meeting last month, "The U.S. business boom has entered a new phase—a phase of pause and reappraisal." The vice-president in charge of the bond department of one of the nation's biggest commercial banks chimes in:





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This sentiment is becoming more pronounced in Wall Street. In the words of one expert, conservative opinion goes like this: "We're beginning to experience a leveling off at a high plateau rather than the start of a big downward move. Around the middle of 1958, we might find ourselves at a somewhat lower level than at present." And for the bond market, that might mean the start of a "modest rally."

A few experts go further. This extreme view is represented by a well known economist for an old Wall Street investment banking house, who sees "a sharp turn coming" and a "full-scale depression within a year."

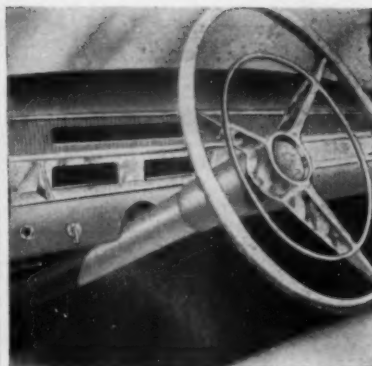
• **Precedent**—But whether the economic cold wave is mild or severe, bond men see the shift of climate bringing a turn for the better in bond prices. They get support from the Wall Street market analysts who like to place current events against the backdrop of the past. These analysts, using charts that go back 100 years or more, find the first recorded bull market in bonds from 1857 to about 1900, followed by a bear market from 1900 to 1920.

Marshall L. Dunn, analyst for Wood Struthers & Co., finds a significant parallel between that 1900-1920 bear market and the bear market of the past 11 years. The recent one, he says, has already reached the magnitude of the 1900-1920 version. Since 1946, for example, the average of high grade corporate issues has recouped 48% of the preceding major decline in yields, almost as much as the 52% figure for the 1900-1920 bear market.

• **Turning Point?**—The chartists carry the parallel a step further. The year 1920 marked a turn from bear to bull and the start of the long 1920-1946 bull market in bonds, the country's second. Despite a number of new factors in today's picture, many of these analysts say the parallel indicates that we have now come to the start of the third long-term bull market in bonds.

Many Wall Streeters who take a more dubious view of 100-year charts heartily agree with this. The investment house of C. J. Lawrence & Sons sees the bond market approaching "a decisive point... a turn... that should be of substantial proportions." It adds, in a recent analysis: "It is reasonably clear that the bear market in bonds, which has had a considerable life, will be replaced by a strong bull market."

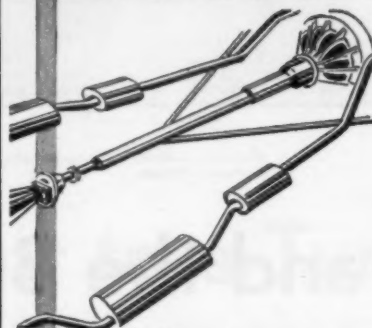
Other observers, though they see a turn in sight, don't see a major reversal. Arthur Wiesenberger & Co., for example, looks rather for a "major rally in bond prices against this downward trend—the type of movement we saw in 1948-49 and in 1953-54." **END**



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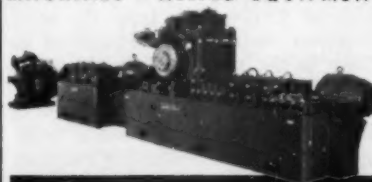
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# Who Are the Swiss Bank Clients?

● Under Swiss banking rules, secret accounts can be used to buy and sell stocks anonymously and regulation-free.

● Canny traders have taken advantage of this in U. S. proxy fights; now the device is under investigation.

● New York State probes charge three Swiss trusts promoted a fraudulent \$8-million stock deal here.

Businessmen have been suspicious of the role of Swiss banks in U. S. finance ever since the foreign banks—representing anonymous clients—started voting blocks of stock in domestic proxy fights (Fairbanks, Morse & Co., for one). Now a Congressional committee has loosed a fresh attack on Swiss banks and trusts that is causing even greater alarm in the financial community.

Last week, the Senate Internal Security Subcommittee heard testimony that U. S. investors are being bilked by stock manipulations cloaked behind the secrecy of Swiss banking laws. The committee was told that frauds against American investors had occurred when some Swiss banks and trusts made "unfair use of foreign funds" to force securities prices artificially upward.

• **New Cry of Fraud**—Spurred by the committee's appearance in New York, State Atty. Gen. Louis J. Lefkowitz this week charged three Swiss trusts with promoting an \$8-million stock fraud during the past two years. Lefkowitz said the securities involved were principally those of Gulf Coast Leaseholds, Inc., Corpus Christi Refining Co., and Green Bay Mining & Explorations, Ltd.

Lefkowitz charged that the three Swiss trusts—Brandel Trust, Lavan Trust, and Sun Investment Establishment—pressured the stock of these companies skyward by exaggerating the progress made in the development of the companies, and by "fraudulent agreements regarding the acquisition of stock." After the alleged fraud was perpetrated, the stock of Gulf Coast Leaseholds fell from a high of \$14.50 a share to \$1.75; Corpus Christi Refining declined from \$4 to about 33¢, and Green Bay Mining broke from \$12.50 to a point where there is no present market for the stock.

U. S. regulatory agencies, of course, have no control over activities of a foreign organization. So it's unlikely that the persons allegedly behind the stock frauds discovered by the Congressional subcommittee or Lefkowitz's office will be prosecuted. But the recent

disclosures increase the simmering discontent in business circles these days about the activities here of Swiss banks.

• **Banking by Code**—At the heart of the controversy is the Swiss banks' secrecy code. Anyone can open a secret account in a Swiss bank and get a code number for all his transactions. Through these accounts, an investor-depositor can buy stock in other countries. And Swiss laws ban any identification of such investor-depositors.

Thus, whereas in the U. S. the Securities & Exchange Commission can usually identify actual owners of stock held by U. S. banks—by subpoena if necessary—the SEC has little means of determining the actual owners of stock held by Swiss banks. So lately some promoters have used Swiss banks and trusts as a mask to avoid making the detailed disclosure of financial facts demanded by law.

These promoters circumvent SEC regulations on issuance of new stock by setting up trusts in Switzerland, selling stock to these trusts, and then reselling in this country—usually through boiler room operations. Since the Swiss banks that act as trustees cannot be forced to reveal the principals, the promoters avoid making full disclosure of a corporation's development and ownership required by SEC on stock registrations. This is but a sketchy outline of just one of many ways shady stock market operators can skirt regulations designed to protect the public. About the only way to break this paper curtain is to have Congress pass legislation requiring beneficial owners of stock to disclose their identities to SEC before any stock sales, or to have such disclosure be prerequisite to proxy voting.

• **Refuge for Riches**—Try as they might, U. S. officials will have little luck in getting the Swiss to change their operations. For the code system has made the Swiss custodians of a huge financial empire, a haven for persons seeking to hide their money. The numbered account system dates to the Napoleonic Wars, when the Swiss employed it to guard the fortunes of

Europe's capitalists. In 1934, it was written into law to protect the victims of Fascist persecution. Now it's being used by persons behind the Iron Curtain. Whether they are victims of Communism or Communists themselves is a moot point under study by the Senate subcommittee.

The secrecy code, of course, can lead to all sort of international financial operations. Egypt reportedly financed arms deals through Swiss banks. Such ousted rulers as Farouk and Peron keep their funds in them. The Soviet Union is said to send huge wads of gold to Swiss banks to pay for underground and propaganda activities in the West.

• **How They Worked**—Secrecy also can lead to financial shenanigans in which U. S. investors are taken in by purchases made by anonymous Swiss clients.

At the Senate committee hearings in New York one witness, Pierre DuVal, testified that he published a weekly investors' newsletter, DuVal's Consensus, in August, 1955, while employed as an adviser to Lavan Trust. DuVal also said he worked indirectly for the Union Bank of Switzerland on instructions from Dr. Paul Hagenbach, president of the Lavan Trust.

DuVal said that on Sept. 9 he ordered the purchase of 4,000 shares of Cuneo Press, Inc., a Chicago printing concern, for the Union Bank. The stock was selling at \$9.37½ per share. Almost simultaneously, he said, he advised his newsletter clients to buy Cuneo Press shares. By Sept. 14, Cuneo's price had jumped to \$14.50 a share.

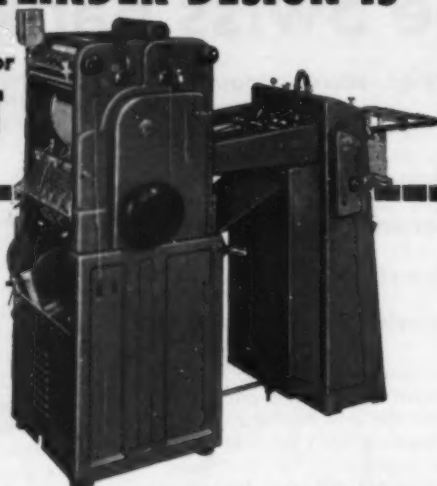
Subcommittee Counsel Robert Morris and DuVal differed on what happened next. DuVal said he sold out Union Bank's stock after an executive of Cuneo Press announced that earnings didn't support the sharp rise in price; DuVal said the Union Bank—or its unrevealed client—made a profit of about \$2 or \$3 a share.

Morris said the sell order predated the public announcement, suggested that profits were higher. In a short time, Morris added, Cuneo's stock fell back to \$9.

• **Swiss Side**—Swiss banking officials, stung by the charges, have tried to take their own precautions against involvement with U. S. finance. For one thing, the Swiss Banking Assn. has notified its 312 member banks—the bastion of Swiss banking—to steer clear, if possible, of U. S. proxy fights. The SBA also recommended that if the banks found themselves embroiled in such domestic squabbles, they should vote whatever stock they own in American corporations on management's side. **END**

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## FINANCE BRIEFS

Savings banks may invade the personal loan field. Loans against depositors' passbooks in New York are limited by law to 90 days, but Brooklyn Savings has developed a scheme for granting such loans, then endorsing them over to the Savings Bank Trust Co.

New stock flotations in the first half exceeded those of the first six months in every year since World War II, says the Commerce Dept. The \$2-billion figure was double the stock underwritten in the first half of last year. Total funds raised from external sources were \$8.5-billion, broken down as follows: debt issues, \$3.5-billion; stock issues, \$2-billion; bank loans, \$2-billion; other sources, \$1-billion.

August life insurance purchases of \$4.9-billion were 25% ahead of the year-before month, says the Life Insurance Agency Management Assn.

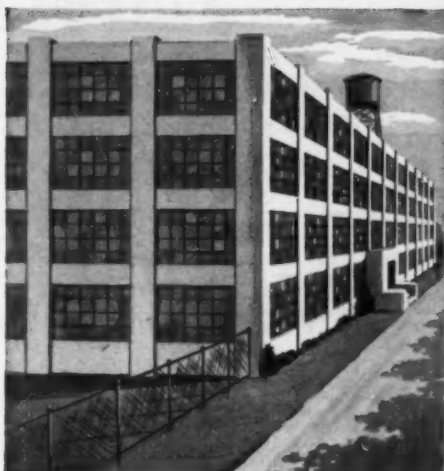
More gold for Fort Knox was bought during the second quarter, the Treasury announced. Purchases for the quarter were \$318-million, bringing the total for the fiscal (June 30) year to \$840-million, compared with \$110-million-plus in fiscal 1956. The chief seller of gold in the second quarter was the International Monetary Fund.

Another World Bank issue will come to market this month, the third this year. The \$75-million, 23-year 4½% bond issue is smaller than the two earlier issues, which were \$100-million each, and both quick sellouts.

Rail profits fell again in August. The Assn. of American Railroads reports a drop to \$81-million, compared to the \$88-million earned by class I roads in August, 1956. The railroads' average rate of return for 12 months ended Aug. 31 reportedly was 3.68%, down from 3.99% a year earlier.

Race to be the biggest bank in New York City continues to be a close one. Chase Manhattan now leads First National City by a hair, with average deposits during the first nine months of 1957 of \$5,765,608,000, less than \$2-million more than First National City's.

Another huge stock offering has been announced, this time by Royal Dutch-Shell. The issue, which will exceed \$323-million, will take place next year. The announcement followed close on the heels of the Standard Oil New Jersey plan to issue a \$250-million-plus offering in the near future (BW—Oct. 5 '57, p126).



*How healthy is a company's business now? ...*



*What is its growth potential in the future? ...*



*What is the calibre of the management team? ...*

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duction costs, consumer interest, finances, taxes, and growth potential.

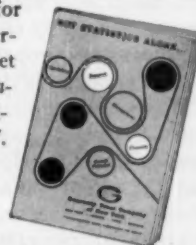
Obviously, this knowledge must be understood and acted upon. It is here that two vital attributes of Guaranty's investment officers contribute to the efficient management of investments:

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The investment service of Guaranty Trust Company is available to individuals, corporations, and institutions. If you would like additional information about Guaranty's Investment Department, write for a copy of an interesting new booklet entitled "*Not Statistics Alone*." Address Dept. BW-7.




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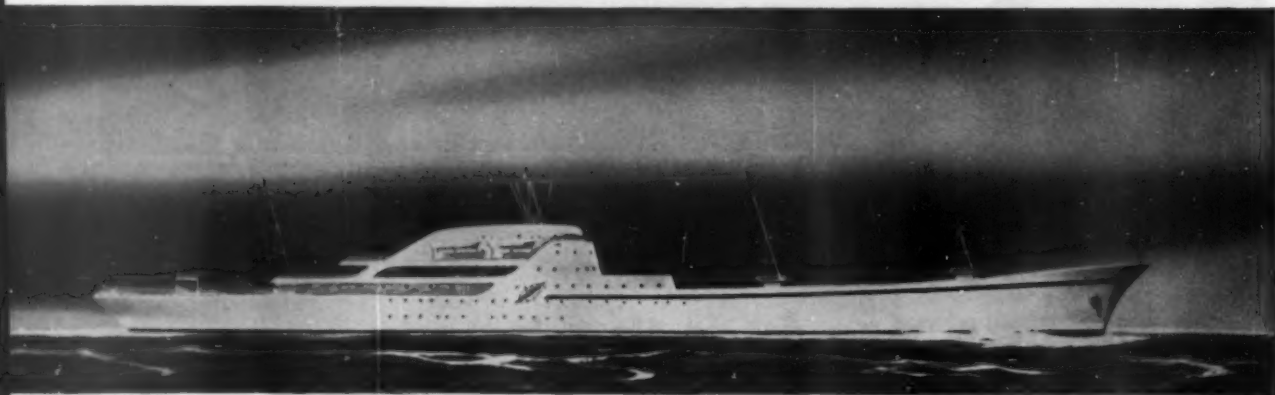
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- 1. Ask Congress for specific legislation bringing networks under FCC regulation**

FCC at present has no direct jurisdiction over networks except through (a) their owned stations, (b) contracts made by affiliated stations with the nets.

- 2. Prohibit option time**

Networks could not require affiliated stations to make specific hours of the broadcast day available for network programs.

- 3. Prohibit "must-buy" requirements**

Networks could not require companies desiring to advertise over the network to buy a minimum number of stations.

- 4. Further restrict network TV station ownership**

Present FCC rules limit station ownership to five VHF, two UHF stations. New restriction would allow only three of the VHF's in the top 25 markets. This would prevent networks from concentrating their owned stations in the country's top markets as at present.

- 5. Prohibit networks from representing independent stations in placing non-network national advertising**

Networks could no longer represent stations competing with network advertising.

# **Klieg Lights Turn on TV Nets**

**A number of network television's most cherished practices have been challenged by the report of an FCC study group. It proposes many changes to aid competition.**

Last week a small bomb exploded under the noses of the country's three TV networks.

The bomb was planted back in September, 1955, when the Federal Communications Commission named Dean Roscoe L. Barrow of the University of Cincinnati Law School to conduct a sweeping investigation into network broadcasting. Barrow's special study group—composed of economists, lawyers, marketing and advertising men—has now released its findings and recommendations (table, above).

The report had gone to a three-man committee including FCC Chmn. John

C. Doerfer, which in turn will make recommendations for possible FCC action.

• **Urgent Issues**—The Barrow report's strongest impact is felt in its conclusion that the TV networks, though "necessary and highly desirable," exercise a "high concentration of control" over TV broadcasting, chiefly through affiliation agreements with large numbers of stations around the country. This, says the report, limits the free play of competition. To reduce this control, the report makes many recommendations affecting such vital issues as network-station relationships, advertising sales

practices, rates, station compensation, and station ownership.

Months will pass before the broadcasting and advertising industries have weighed the meaning of the suggested changes. The report itself tends to play up the construction of its proposals. But, if adopted by FCC, they would drastically alter the present structure of TV broadcasting, and, the networks believe, threaten the existence of the networks operating today.

• **Part of a Pattern**—The Barrow report falls into place as part of the searching scrutiny of TV broadcasting that has become increasingly sharp-eyed in the past several years. Since the study group began work two years ago, for example, network chiefs have appeared before various Congressional bodies, notably the Senate Commerce and House Judiciary Committees, to

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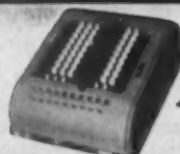
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City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

explain and defend network practices. The Justice Dept. also has a network investigation in full swing.

This lively interest stems from the enormous role TV has assumed since 1948 as an entertainment and advertising medium and as a social force. In shaping the face of TV, the networks—as time salesmen, program suppliers, station owners—have played the leading part. They are now receiving the lion's share of investigators' attention.

The current round of investigations finds a parallel in FCC's three-year probe into radio broadcasting, launched in 1938. Out of that investigation emerged the Chain Broadcasting Rules of 1941, which today govern network-station affiliation contracts. Most of the present Barrow report recommendations involve changes in these rules.

• **Reactions**—As network officials began to wade through the detailed study, they generally declined comment. One executive suggested the lengthy road it must travel before any steps to implement it are taken. And, of course, FCC could merely file and forget it. But the study group's independent, objective status assures its findings thoughtful consideration. Further, in view of the publicity the study is receiving, FCC eventually will have to take some public stand.

Outside the FCC, the report will undoubtedly make fascinating reading for such men as Sen. John W. Bricker (R-Ohio), who has a bill pending in Congress to regulate the nets, and Rep. Emanuel Celler (D-N.Y.), who is awaiting action on his Judiciary subcommittee findings, in some respects similar to the Barrow report (BW-Jun.15'57, p76).

Moreover, the report will add fuel to the Justice Dept.'s network probe (BW-Sep.29'56,p134). It advises FCC to refer various matters to Justice for possible antitrust action.

• **Competition**—The issues raised by the report revolve chiefly around one word: competition. The "dominant theme" of the study is "the importance of achieving or maintaining the conditions necessary for effective competition in the TV industry." Accordingly, the various recommendations can be classified by how they intend to create or restore competition.

• Some would put an end to practices, "principally on the part of networks," that the report claims restrain competition.

• Others are intended to stimulate competition among the nets or to open a wedge for new nets.

• Still others aim to increase the effectiveness of competition between networks and their chief TV competitor—national "spot" or market-by-market advertising.

• A fourth area is the field of con-

# "Make it Better" with Silicones

- ❖ Longer lasting cosmetics made with water repellent silicones
- ❖ Silicones improve appliance finishes
- ❖ Better packaging with silicone coated papers

**SOMETHING OLD, SOMETHING NEW**, *something familiar but different, too...* this is the range of products being improved with Dow Corning Silicones. Why make it better with silicones? Lower production costs for one reason. But as these current examples indicate, silicones also help create more customer satisfaction, more sales.



**LONGER LASTING LOTIONS** — Yesterday: no matter how often Mrs. Consumer applied hand lotions, her skin was still vulnerable to household detergents and cleaners.

Today: the cosmetic industry is marketing longer lasting and more protective beauty preparations made with Dow Corning Silicones. Already an accepted ingredient in sun-tan oils, hand creams and baby lotions, the silicones turn back water like an invisible glove... help keep the soothing ingredients on the skin longer.

Latest survey found most name cosmetic houses evaluating silicones for products ranging from hair sprays to foot ointments. And they're telling their customers about silicones, too.

More and more, at cosmetic counters everywhere, you hear Mrs. Consumer say, "I'll take the one with silicones."

**NEW APPLIANCE "SALESMAN"** — The familiar refrigerator display cases in our supermarkets have long had a coating equally familiar... porcelain. Now, there's something new

under the fluorescents... chip resistant silicone enamels.

A major producer of these display cases, Scherer-Gillett of Marshall, Mich., reports that their silicone finished cabinets stay new looking longer... do a better job. The silicone enamel—Nubelon S, made by Glidden—has excellent color retention; withstands more abuse from shopping cart impacts, food stains, and abrasive cleaning compounds. Available in several attractive colors, the silicone enamels enable Scherer-Gillett to produce cabinets that weigh less, cost less to ship, and are easier to handle and install.

Next major area of application for enamels made with silicone resins? Right now they're rapidly gaining favor in the home appliance market.

**PACKAGING STICKY PRODUCTS?** Then consider the new silicone coated papers and paperboards now available. Virtually nothing will stick to these new packaging materials, thanks to the anti-adhesive silicone coating developed by Dow Corning. Applied at the mill, the silicone coating makes it possible for users of paper bags, boxes and wrappers to get even the stickiest products out of containers without waste. Producers of rubber, asphalt, adhesives, sticky foods... all can now offer their customers greater convenience and ease of handling at little or no extra cost. In the



photo you can see how adhesive tape flicks off a silicone coated interleaving paper while clinging to an untreated paper.

**FOR MORE INFORMATION** on any of these silicone products or applications, write Dept. 2222



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## Hi-Ti titanium aircraft bolts have the strength of steel, weigh 43% less

Once considered a laboratory curiosity, titanium bolts are now standard production items at SPS and are being used in many advanced design operational aircraft. They give the aircraft industry the closest approximation yet to the ideal fastener, combining strength, lightness, and resistance to corrosion.

To produce the first practical aircraft bolts made of titanium—a promising but sensitive metal—SPS invested over \$500,000 and several years of high priority research. The result is the most extensive titanium facility in the fastener industry today. We can give you both the technical assistance and the delivery you need to utilize the full advantages of titanium for applications demanding fasteners with exceptional strength-to-weight ratio.

For more information on Hi-Ti fasteners, contact Aircraft Products Division, STANDARD PRESSED STEEL CO., Jenkintown 57, Pa.

**COMPARISON OF TYPICAL MECHANICAL PROPERTIES**

	Steel	Hi-Ti
Relative weight	1.00	0.57
*Tensile strength (psi)	174,500	169,000
*Tensile strength-to-weight ratio	174,500	295,750
Fatigue strength (psi) at 8,000,000 cycles (with 10% preload)	40,000	50,000
Strength-to-weight ratio at peak strength	40,000	87,500
*Elongation (%)	15.6	16.9
*Reduction in area (%)	56.6	36.5

\*Based on .357 gage specimen made from bolts

**Hi-Ti vs. alloy steel.** Significant comparison is strength-to-weight ratio at endurance limit. Complete tension-tension charts are included with each Hi-Ti shipment.

**SPS**

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Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Cooper Precision Products • Standco Canada Ltd. • Umbrico Socket Screw Co., Ltd.

flict between the networks and their affiliated stations. Generally, the report declares, the nets have a strong bargaining position in dealing with their affiliates, and it wants to insure that this is used in the public interest.

• **To the Heart**—How deeply the report strikes at present network operations is underscored by its recommendation that the FCC prohibit option time and must-buy arrangements. (Option time is the number of hours in a broadcast day, as specified in an affiliation contract, that a station makes available to the network; must-buy requirements demand that a potential network advertiser buy a minimum number of stations in order to advertise over the network at all.) The report lumps both practices among those it views as in restraint of competition.

The networks' case for option time is that they must be sure a definite period of time is available over a definite number of stations in order to make sales to advertisers. They have always insisted that this can only be achieved by contracts binding their affiliates to reserve certain hours for network shows.

The Barrow report argues that evidence shows that most stations will clear network programs even without a contractual obligation. It bases the proposed ban on option time on three principal reasons:

- The practice may be a violation of antitrust laws.

- It restricts competition in the TV industry by tying up a station's best hours.

- It shifts the responsibility for program content from the stations—where the law says it must rest—to the networks.

- **Network Selling**—As for must-buy requirements, the nets have always argued that they are not selling time over individual stations, but over a group of stations. The must-buy list of stations, they contend, represents the smallest possible sale on which they can meet costs—such as the expensive coaxial cable interconnections—and still show a profit. To allow sponsors to pick and choose among network stations would destroy the network concept of time selling. (Only NBC and CBS, as a matter of fact, have such requirements; ABC uses instead a minimum dollar purchase to which the report says "no objection should be raised.")

The report disagrees with network views on this point, too. It says the great demand for network time would enable nets to sell full station lineups without must-buy lists. These lists, it asserts, are compiled to meet advertising demands, not costs. Their chief harm is the "substantial bargaining advantage" they give the nets in re-



# *The loneliest woman in the world!*



A helpless car. Stuck. Immobilized. Hundreds of horsepower under the hood. But no horsepower to drive.

Where did it go?

This car has a conventional differential in the axle. With such a unit, all the car's horsepower is delivered to the wheel that is mired; spinning in deep snow or sand; or slipping on ice. The wheel that is free to drive on tractive surface gets *absolutely no horsepower*.

Now comes the Spicer POWR-LOK Differential to end this irritating, annoying, costly problem. POWR-LOK, unlike conventional differentials, *always* delivers engine power to the wheel with the best tractive advantage on slippery streets, soft footing or rough roads. The car moves... can be maneuvered... can help itself out of tough spots.

The Spicer POWR-LOK is already available in several 1957 automobile and light truck models, and will be available in many more 1958 makes and models.

Spicer Axles and Spicer Thornton POWR-LOK Differentials are products of Dana Corporation, operating 10 modern plants in strategic locations.

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**DANA**

## **DANA PRODUCTS Serve Many Fields:**

**AUTOMOTIVE:** Transmissions, Universal Joints, Propeller Shafts, Axles, Torque Converters, Gear Boxes, Power Take-Offs, Power Take-Off Joints, Clutches, Frames, Forgings, Stampings.

**INDUSTRIAL VEHICLES AND EQUIPMENT:** Transmissions, Universal Joints, Propeller Shafts, Axles, Gear Boxes, Clutches, Forgings, Stampings.

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**MARINE:** Universal Joints, Propeller Shafts, Gear Boxes, Forgings, Stampings.

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**EDDIE MAYEHOFF, M.F.S.,**  
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motion pictures, theatre, TV

When the Hon. Eddie Mayehoff, M.F.S.\* and funsmith extraordinary, juts his jaw and delivers a punch line, you can hear the crowds laughing a mile away. That's great in a theatre—but not in an office. Noise is distracting when you're trying to work. It cuts efficiency, and costs real money.

**Acoustifibre Ceiling Tiles** are a wonderful way to quiet a busy office—and make it handsomer, too. Almost like magic they muffle the buzz of conversation, the jangle of phones, the clack of typewriters. Acoustifibre makes offices calm, *provably* more efficient. And it's easy to install... goes right over existing ceilings. Tiles can be vacuum-cleaned, or repainted time and again without loss of sound absorption.

**Free—Noise Reduction Kit.** Contains photos, case histories and suggestions for reducing noise in offices, factories, stores, homes. Mail coupon now. No obligation.

\*MASTER OF THE FAMILY  
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—SEND FOR FREE KIT—  
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Please send me the free Noise Reduction Kit that contains acoustical case histories, tells how I can reduce errors and increase efficiency through sound conditioning.

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Company \_\_\_\_\_

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City \_\_\_\_\_

Zone \_\_\_\_\_ State \_\_\_\_\_



lation to affiliates when it comes time to decide what stations will be included in the lists, the report argues.

- **Station Relations**—The report also recommends bringing network power to grant affiliations—up to now considered private business—under closer FCC scrutiny. It says the nets should file:

- Statements of their criteria for affiliating or disaffiliating stations.

- Reports listing changes in affiliations and the reasons for them.

- A report on every request from a station for affiliation, what action was taken, and why.

- A report on every disaffiliation and the reasons behind it.

As a further step, the report adds, FCC should make public the affiliation contracts, together with the compensation stations receive.

- **Limit on Ownership**—The report takes on the networks on the subject of their ownership of stations, too. The networks have always maintained that they must own stations to secure financial stability. NBC Pres. Robert Sarnoff, for instance, told a Senate group that the NBC network lost more than \$4-million from 1947 to 1954, while NBC-owned stations were making money all the time.

The report advises FCC to continue existing restrictions on station ownership and add a rule limiting owners to three VHF stations in the top 25 markets (the maximum is now five). Since all the nets have concentrated their VHF outlets in the top markets, having to get rid of at least two stations and move into less lucrative cities would cost them considerable revenue. This rule would also apply to other big multiple-station owners, such as Westinghouse Broadcasting Co.

- **Spot Sales**—Barrow's study group recommended curtailing another source of network revenue—representing their affiliated stations in the national spot market. For an advertiser who wants coverage in many markets, the only alternative to going on the network is to buy time on selected stations around the country through a station representative, who acts for groups of stations. NBC and CBS do this for some of their affiliates. Since this activity is competitive with their primary business, the report suggests they be allowed to represent only the stations they own. The report also urges that FCC adopt rules preventing networks from influencing the national spot rates of their affiliates.

To enforce FCC's decisions, the report suggests Congress give the commission power to levy fines against violators. At present, FCC's only remedy is to withdraw a station owner's broadcasting license—so stiff a penalty for most violations that FCC is reluctant to use it. **END**

# DIVERSITY

If you run into unexpected demands  
for practically any type or size  
of ball bearing or ball bearing unit,  
turn to Fafnir . . . the most complete  
and diversified line of  
precision ball bearings and  
ball bearing units in America.



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Fafnir is the largest independent  
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U. S. distributors, and agents the  
world over. Worth bearing in mind.  
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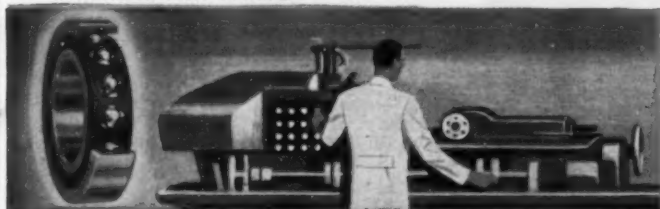
**BALL BEARINGS**

MOST COMPLETE

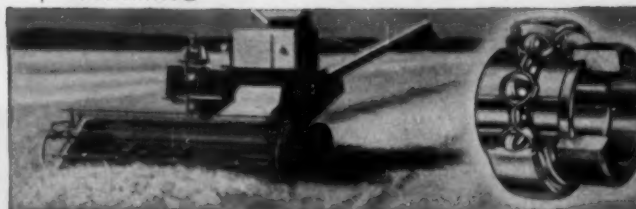


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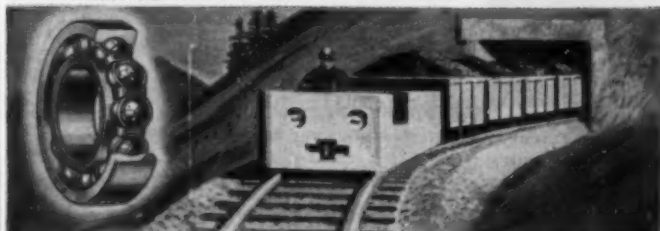
MANUFACTURING



FARMING



MINING



TRANSPORTATION





# New Product Reshapes Company



PRES. ELMER SCHAFT of Behr-Manning displays the company's first major consumer product—cellophane tape. With it comes a new trademark. There will be other changes.

All its life, Behr-Manning has concentrated on industrial products. Now its consumer tape revises its whole approach.

For many years, Behr-Manning Co. of Troy, N. Y., has concentrated on selling industrial tapes and abrasives to an industrial market staked out long ago. It was a quiet company in a quiet niche of its own.

Now, a chance to crack a lush consumer market is reshaping the company and its conservative approach. But it is tackling its problem in its own way. It will introduce its new cellophane tape through industrial channels first, then head straight for the consumer market.

• **Series of Changes**—The chief change—switching trademarks—has already come, but only after long deliberation. Finally, even though it could not win the consent of all its executives, Behr-Manning exchanged its standing bear and triangle for a multi-colored cartoon of a bear's head calculated to catch the consumer's eye.

The company's packaging—drab for a consumer market—was replaced with bright blues and yellows on the advice of New York designer Jim Nash & Associates.

Even the thinking of Behr-Manning executives is being changed. The company has been publicity-shy. Now it's loosening up a little. Its president, Elmer C. Schacht, once rarely talked publicly about Behr-Manning plans. Today, he does—although still reluctantly.

• **New Product**—The product that's shaking up Behr-Manning's old policies is a new pressure sensitive cellophane tape named Bear Brand, which the company hopes will grab its share of an estimated \$70-million market.

For Behr-Manning, the move to cellophane tape is a natural one, since the techniques of processing and coating rolls of paper and cloth tapes lend themselves to producing cellophane tape.

• **The Problems**—But selling Bear Brand in the mass consumer market, where Behr-Manning comes up against such old-hands as Minnesota Mining & Mfg. Co. (Scotch brand) and Permacel Tape Corp. (Texcel), presents the company with a set of problems it never faced before in selling to industrial customers:

- How does a company move into the mass consumer market?
- How long will it take to move in?
- What will a shift to the con-





## Makes every day a happy berth-day

Berthing a behemoth of the sea is a delicate operation. A slight miscalculation, a quirk of the tide, a sudden gust of wind, and wham! Irresistible tons of ship slam into immovable pier with costly damage to both.

The secret of saving the expense and delay of such a mishap lies in big, brawny dock fenders, made of PLIOFLEX rubber. These tough, resilient extrusions readily absorb tremendous impact and crushing action—happily prevent many a buckled plate or smashed piling. In fact, they do their job so well they pay for themselves in maintenance savings or make possible lighter pier construction.

It used to be that dock fenders were made only of natural rubber. But the low cost, uniformity, age-resistance and unusual toughness of cold polymerized PLIOFLEX have made it the rubber to use. And this change is typical of the trend to tailor-made synthetic rubber—to PLIOFLEX.

Where can you use the outstanding properties of PLIOFLEX to advantage? You can find out by writing for full details and technical assistance to Goodyear, Chemical Division, Dept. J-9415, Akron 16, Ohio.

Chemigum, Plioflex, Pliolite, Pliovic—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio



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RUBBER CHEMICALS  
DEPARTMENT**

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High Polymer Resins, Rubbers, Latexes and Related Chemicals for the Process Industries

**44 NEW MACK PUMPERS TO NEW YORK CITY.** The toughest fire-fighting town in the world is New York City. Here fire apparatus must not only snake through heavy traffic at high speeds . . . but may be called upon to stand for hours, pumping torrents of water on fires in high buildings. The proved reliability of Mack apparatus was a big factor when New York City ordered the cab-forward beauties shown at right.

on the world's busiest avenues . .

# Macks

## HANDLE THE IMPORTANT JOBS!

A siren sounds! 'Way down the avenue, you spot flashing lights! Suddenly a big Mack pumper comes hurtling by on its way to protect lives and property.

People often tell us: "Those fire engines of yours are great arguments for buying Mack trucks. Why not let people know that your trucks are as good as your fire apparatus?"

They're usually surprised when we explain that it's the other way around. Mack fire apparatus is unsurpassed for dependability because it's built to the same uncompromising standards as a Mack truck.

For instance. A long-lines hauler often expects his Macks to run night and day for weeks—even months—on end . . . rolling up hundreds of thousands of smooth, repair-free operational miles on highly competitive schedules. *Macks come through!*

A contractor expects Mack dumpers to stand up to the crushing impact of tons of dirt and

rock dropped by giant shovels . . . to hustle over axle-pounding roadways or in and out of well-nigh-inaccessible bogs . . . and to go on doing it until the job's wrapped up. *Macks come through!*

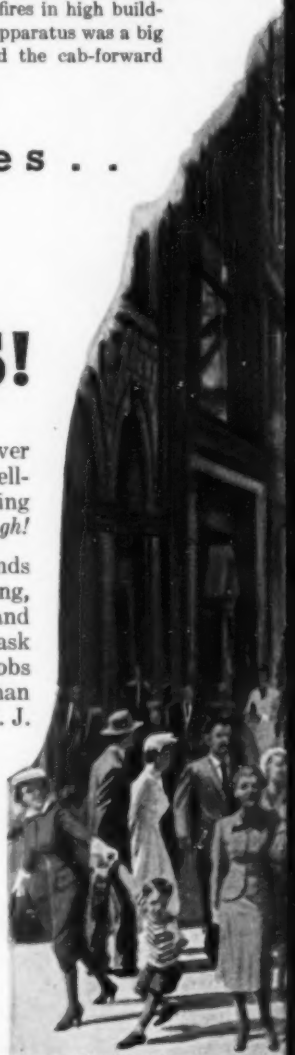
But find out for yourself, first hand. Thousands of users, in every phase of heavy-duty hauling, all count on Macks to outperform, outlast and outearn anything else in their class. Just ask any one of them why—on his important jobs—he can't afford to operate anything less than a Mack. Mack Trucks, Inc., Plainfield, N. J.

IT'S PART OF THE LANGUAGE . . . BUILT LIKE A



# Mack

TRUCKS • BUSES • FIRE APPARATUS  
AND ELECTRONIC EQUIPMENT



**TRANSIT BUSES**—Transit buses are the strongest made—they have to be! They take a remorseless, clock-round beating from heavy loads, incessant starts-and-stops, and the world's most congested traffic. Few manufacturers can produce a transit bus . . . but the widespread use of king-size Macks in New York City gives eloquent testimony to their durability, safety and economical operation.



**UTILITIES VEHICLES**—Just as important as fighting fires is the herculean task of trouble-shooting and maintenance along the mains and cables that supply the city's water, electricity and gas. That's why New York's major utilities depend on Mack trucks for fast, unfailing transportation of full crews, large equipment and heavy materials at lowest over-all operating costs.





**Design  
Possibilities...  
Astronomical!**

**HAUSERMAN  
MOVABLE WALLS OF  
REYNOLDS  
ALUMINUM**

When Hauserman and Reynolds, together, offer you the versatility of aluminum for interior walls, design scope is almost limitless. You choose from any number of embossed textures...multiplied by innumerable colors and countless panel arrangements. Aluminum extrusions provide still another multiplier... joining wall sections with hairlines or narrow beads or wide posts in any profile and in any finish, including brilliant anodizing.

Total possibilities...astronomical!

And all this beauty is combined with the basic advantages of Hauserman Movable Walls... earliest occupancy, lowest maintenance, lifetime service. Write for literature. Or consult the Yellow Pages (under PARTITIONS) and call your nearby Hauserman representative.

**The E. F. HAUSERMAN COMPANY,**  
6776 Grant Ave., Cleveland 5, Ohio.  
Hauserman of Canada, Ltd., Toronto, Ontario.



Watch Reynolds all-family television program "Disneyland", ABC-TV.



**"... with a consumer product to sell, the company's marketing concepts will be taxed to the limit ..."**

STORY starts on p. 120

sumer market do to the company's organization?

• **Frontrunner**—Behr-Manning's job is how to overcome the inclination of tens of millions of customers to ask for "Scotch tape." Buyers have been used to this for a decade or more. The two words could be lethal for other cellophane tapes. Minnesota Mining & Mfg. tied the cellophane tape market through patents that just expired a year ago. It also promoted its Scotch brand vigorously, so vigorously in fact, that "Scotch tape" has become a near-generic term.

So Behr-Manning's entry may become a classic case in the field of marketing.

Until now, Behr-Manning has had very limited experience in the consumer market. It reached consumers only with "Behr-Cat" tapes and abrasive sanding materials sold in relatively small amounts through retail paint, hardware, and do-it-yourself suppliers. The big industrial markets have been the company's chief money makers, and its sales organization has directed its efforts toward hitting these targets.

Now, with a major consumer product to sell, the company's marketing abilities, resources, and concepts will be stretched. Its director of advertising and sales promotion, Henry J. Sidford, talks of "changing the company's whole approach to advertising."

• **Opening Moves**—Despite the problems and despite its inexperience, Behr-Manning is ready to tackle the big market—in its own cautious way. These are its opening moves:

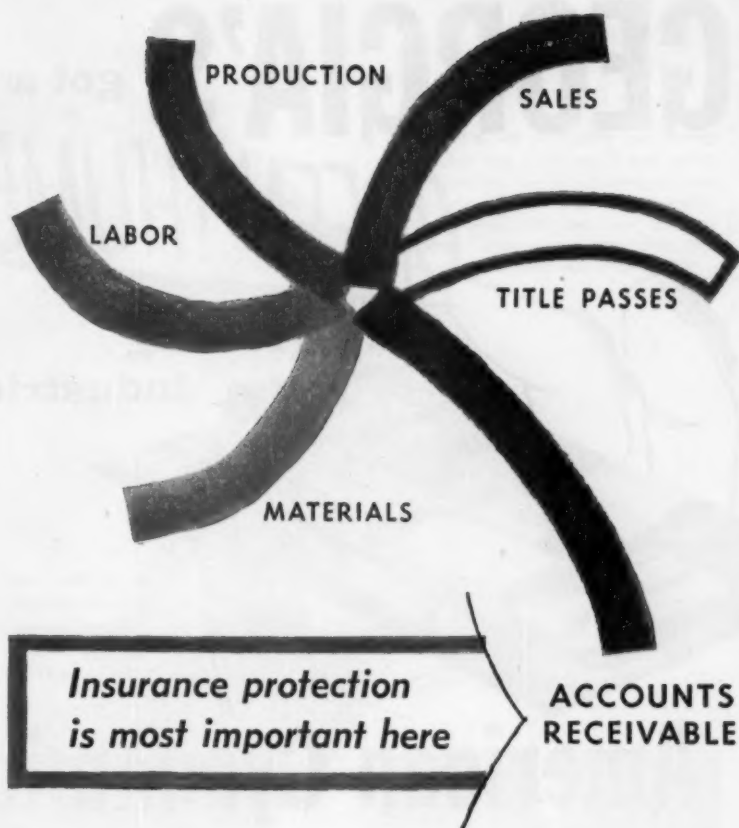
- The new trademark.
- The switch to bright blue and yellow packaging.
- Sales promotion beginning through already established retail paint, hardware, and paper jobbers.

• Diversion of some of its 500 sales and distribution people to the promotion and sale of Bear Brand.

Eventually, the company must develop new distributors to reach consumers, but so far this step has not been planned in detail.

While Behr-Manning executives know that the major retail counters—variety chains and department stores—are a long way off, they are quite confident that Bear Brand will eventually get there. One of them puts it this way:

"It's a matter of taking deliberate steps and taking them when we think



**Your cycle of protection is not complete unless accounts receivable are insured**

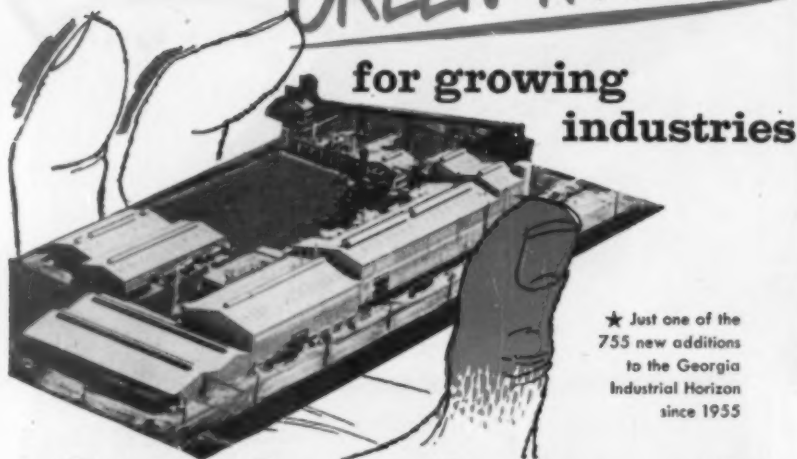
When a shipment is made—title passes—and you create an account receivable. You are more certain of the end result—PROFIT—when you protect accounts receivable with Credit Insurance. That's why an increasing number of executives have decided that NO cycle of protection is complete unless capital invested in accounts receivable is insured by ACI. To learn more about Credit Insurance, call our office in your city, or write AMERICAN CREDIT INDEMNITY COMPANY of New York, Dept. 42, 300 St. Paul Place, Baltimore 2, Maryland.

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★ Just one of the  
755 new additions  
to the Georgia  
Industrial Horizon  
since 1955

## American Cyanamid

proves that it's good business  
to produce in GEORGIA

"The American Cyanamid Company has been operating in Georgia for more than twenty years," and has found "ample supplies of water... adequate facilities for disposal of wastes... excellent railroad and highway facilities... and an opening to ocean-going vessels at Savannah. Our people have found...the right sort of community atmosphere...supported by the proper governmental climate. Cyanamid is happy indeed to be a resident of the State of Georgia!"



K. C. Towle  
President

### Ingredients for Growth

- Versatile Labor Supply
- Transportation Unlimited
- Abundant Water, Fuel, Power
- Nearby Raw Materials
- Nearby Consumer Markets
- Fair, Equitable Taxes

**Yes...the grass IS greener in Georgia**

### GEORGIA

Department of Commerce

Scott Candler, Secretary

100 State Capitol, Atlanta, Ga.

For Specific Facts and Figures Write:  
Scott Candler, Sec'y., Dept. D-710  
Georgia Department of Commerce  
100 State Capitol, Atlanta, Georgia

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_

we should." Another says: "My own way of describing our eventual move into the consumer market is making haste slowly!"

• **Strategy**—The decision to attain big retail consumer sales for Bear Brand by first introducing it through industrial channels, is also reflected in the company's advertising policy. The company does not intend to splash the name "Bear Brand" in consumer media immediately. Advertising so far is being held to business publications that are already familiar with the name Behr-Manning.

Distribution also will follow this "make-haste-slowly" pattern. The company's so-called canned goods—canned rolls of cellophane tape—went on sale in May on a regional basis, then on a national basis, but only through Behr-Manning's established industrial jobbers. No new jobbers have been sought yet.

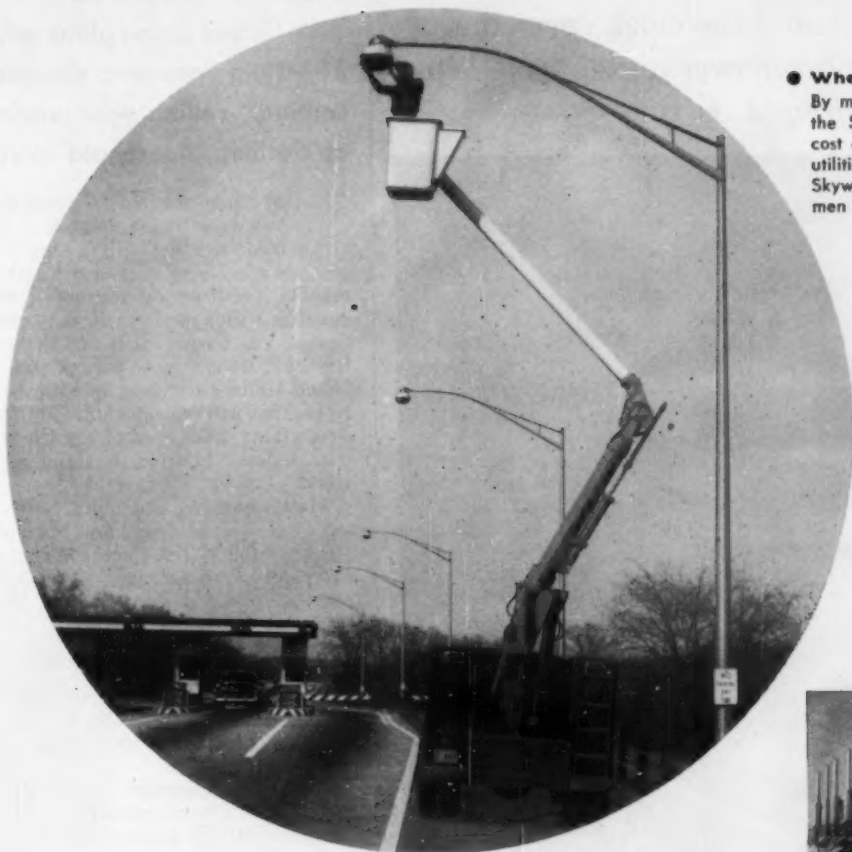
This week the entire cellophane tape line, including home, executive, and industrial dispensers, dispenser displays, plus tapes in sizes from  $\frac{1}{4}$  in. to 1 in., is going on sale through established jobbers.

• **No Time Table**—Only when the Bear head trademark becomes well-recognized among established jobbers and in industrial markets will Behr-Manning begin to look directly at the consumer market. Top company officials will estimate only—and still tentatively—that the company may be ready to launch a strong consumer campaign in six months. But they add quickly that they are only estimating.

The hesitancy isn't born of lack of confidence, but of the company's traditional conservative approach. Behr-Manning is depending on Bear Brand to sell itself during the initial sales period.

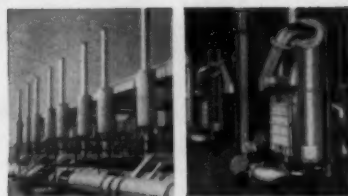
• **Full Confidence**—Says Schacht: "We'll be making a quality tape that is equal or better than the products already on the market. We also know how to maintain uniform quality. And, we have a national distribution system with 16 warehouses and a national selling organization. Even though it will be necessary to develop new outlets, we have no hesitation in entering the market..."

Behr-Manning is a wholly owned subsidiary of Norton Co., Worcester, Mass. Its history goes back to 1872 when Herman Behr, an immigrant, began making sandpaper in a Brooklyn (N.Y.) loft. In 1912, John A. Manning formed the Manning Sandpaper Co. in Watervliet, N. Y. The two merged in 1928. In 1930, Norton bought Behr-Manning to round out its line. Norton, one of the world's largest manufacturers of grinding wheels, abrasive grain and grinding machinery, operates in seven other countries either directly or through Behr-Manning. **END**



● **When It's up - costs go down**

By making jobs aloft easier and safer, the Skyworker aerial lift reduces the cost of doing those jobs. For example, utilities report that two men using a Skyworker place more wire than five men using standard equipment.



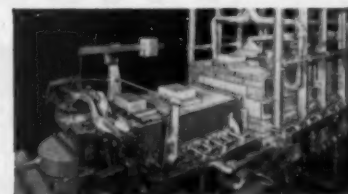
Exhaust silencing system (left) and giant water distillation unit—by Maxim Silencer



Automatic method of gluing and sealing corrugated shipping cases—by Standard-Knapp

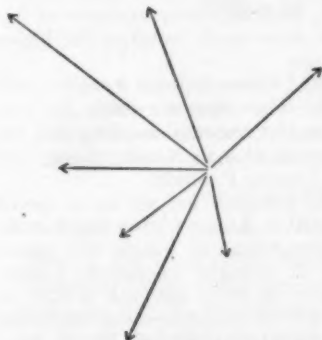


Transfer feed for presses (left) and automatic notching machine—by V & O Press



Forehearth and feeder prepares glass for forming into containers—by Hartford-Empire

## THE ECONOMIC EMPLOYMENT OF IDEAS



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# EMHART

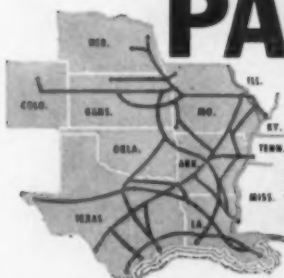
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## MODERN PACE in transportation



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LINES**

*The Route of the EAGLES...  
serving 10,000 miles  
and 11 great states!*

## Super Supers

**Grand Union plans string of 10 big "one-stop shopping centers," selling wide variety of clothing, household wares.**

Grand Union Co., big regional food chain, last week took a flying leap into "scrambled retailing" (BW—Jun. 1 '57, p90). It announced that in the next 16 months it will set up a string of nine one-stop shopping markets, called Grand-Way Saving Centers. The centers will follow the pattern set in Grand Union's test store in Keansburg, N. J. They will sell—in addition to food—everything from apparel, garden supplies, outdoor furniture to major appliances.

Most supers have dabbled more or less extensively in food lines, of course. Henke & Pillot, Texas outfit bought by Kroger two years ago, and Weingarten's have been deep in soft and hard goods for some years (BW—Jul. 11 '53, p90). Safeway has experimented with appliances and other goods. Food Fair is trying the route of a separate but adjoining store. Nearly every food store, from A&P to the corner grocer, offers some nonfood items.

Grand Union appears to be going all the way. Its Albany center, for example, has some 10,000 nonfood items. The centers all will have lay-away plans for everyday household goods, time payment plans for major appliances—even fitting rooms for apparel customers.

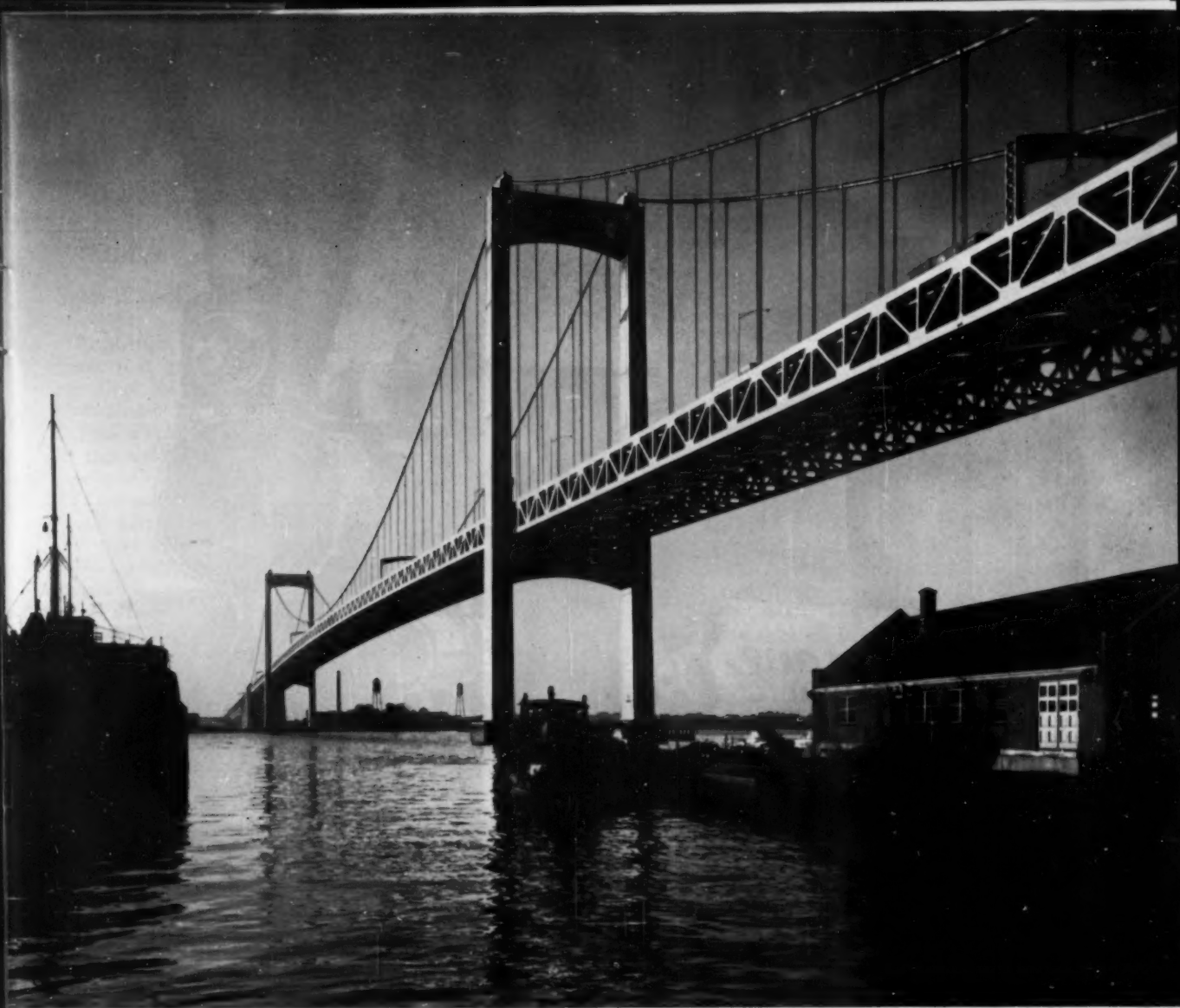
Not all food merchants are yet convinced they are taking the right road. Food Fair's Louis Stein still takes a wait-and-see attitude on his experiment. It's true that margins are higher on nonfoods. But the slower turn-over of big-ticket items tends to offset the higher markups.

Grand Union explains its move quite simply. The consumer wants the convenience of one-stop shopping and the low prices of mass merchandising, says Pres. Lansing P. Shield.

The company has set up a special Grand-Way Saving Center merchandising department to handle this operation. It brought in Joseph Givner, formerly of Sears, Roebuck & Co., to head up this department—an indication of how seriously Grand Union takes its new baby.

Almost at the same time, Grand Union announced results of the chain's operations in the first half of 1957. It reported record sales of over \$207-million—a 14.5% increase over the same 1956 period. Better yet, it reported record earnings of over \$2.7-million after taxes—a solid 19.8% gain over 1956's first half.





## Walt Whitman Bridge spans Delaware

*"From 4 to 6 P.M. crossing the Delaware unable to make our landing through the ice . . . for over two hours we bump'd and beat about, the invisible ebb, sluggish but irresistible, often carrying us long distances against our will."*

From Walt Whitman's Diary, February 3, 1877



During the years Walt Whitman made his home in Camden he used to take special delight in the ride across the busy river to Philadelphia. With his glowing vision of America's future, the Good Gray Poet must have foreseen the day when the ferries plying the Delaware would give way to mighty bridges. But he would be startled indeed if he could see the great structure which bears his name today.

The Walt Whitman Bridge rates as a giant, even among the foremost bridges of America. Its length between

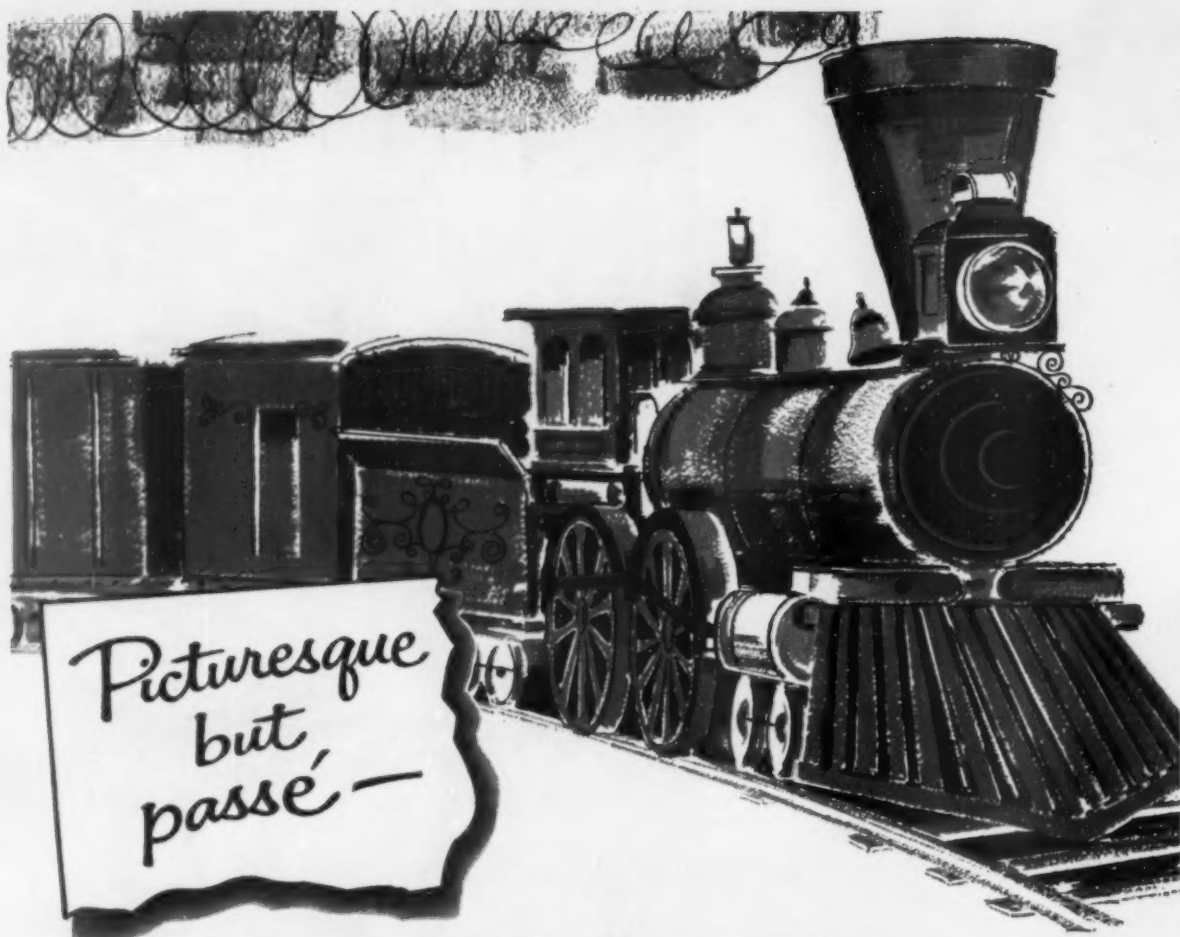
anchorage is 3540 feet. Its main span of 2000 feet is suspended between towers that soar to the height of a thirty-story building. Its total length, including elevated approaches, is 6.2 miles.

Bethlehem built the towers and roadway, containing 22,000 tons of steel, and supplied many more tons for approaches, piers and anchorages. All of this steel was melted and rolled in Bethlehem plants within less than 100 miles of the bridge site. Our nearby Pottstown works fabricated the steel and Bethlehem bridgemen erected it.

During its first full year of service the seven-lane Walt Whitman Bridge will carry an estimated total of 15 million cars and trucks between South Philadelphia and Gloucester City on the New Jersey side of the Delaware. After 1960 the annual volume of traffic across the span is expected to exceed 20 million vehicles.

# BETHLEHEM STEEL



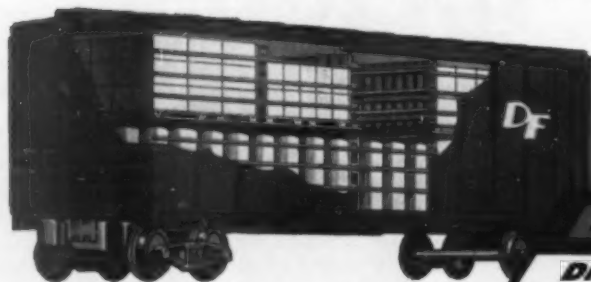


...and so is old-fashioned lading protection

The day of the "iron horse" is done . . . and so is the shake, rattle and roll treatment of freight . . . thanks to Evans DF\* equipment.

DF-equipped box cars have virtually eliminated damage in transit. Costly dunnage is a thing of the past.

Today, 46 major railroads offer DF-equipped cars *at no extra cost to shippers*. And these railroads report triple revenue per car over ordinary cars. So whether you're shipper or railroader, don't be content with "iron horse" lading protection. Write today for full details on DF: Evans Products Company, Dept. B-10, Plymouth, Michigan.



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EVANS PRODUCTS COMPANY is a member of the Packaging Institute. 19th Annual Forum, October 28-30, New York City.

# In Marketing

• • •

## FTC Drops Case Against Food Fair, Says It Lacks Jurisdiction

Regulation of the trade practices of grocery chain stores that have meat packing operations belongs to the Dept. of Agriculture, not to the Federal Trade Commission.

This FTC ruling last week confirmed the findings of the commission's hearing examiner last spring in a case involving Food Fair Stores (BW-Apr.27'57,p61). FTC dismissed charges against the chain for inducing illegal advertising allowances from its suppliers. But it did order several of the suppliers—who do come under FTC jurisdiction—to stop granting such allowances unless all competing customers get a proportionately equal deal.

FTC's stand adds fuel to the controversy in Congress over regulation of the meat industry. A drive to bring the trade practices of meat packers under FTC regulation, instead of the Dept. of Agriculture, as now provided by the Packers & Stockyards Act, failed in the last session of Congress. But the ruling could strengthen the meat packers' contention that they are now in a field where the competition is wide open. The packers would like to see a change in the 1920 consent decree that limits them almost entirely to meat processing and packaging. And the ruling will aid moves to tighten laws so that chain stores may not "escape" FTC regulation simply by owning a packing plant.

In the Food Fair case, FTC Chmn. John W. Gwynne ruled that the packing plant that Food Fair has operated since 1945 makes the chain a packer even though packing activities account for only 5% of its total retail sales.

• • •

## Electronic Machines Come to Aid Of TV and Radio Ad Sellers

Automatic data processing has been growing increasingly popular on Madison Ave. Big advertising agencies such as Young & Rubican and McCann-Erickson have installed systems. Now the big systems are moving into the station representatives' field. Peters, Griffin, Woodward, Inc., one of the biggest of the station representatives, this week unveiled its Remington Rand equipment—the first automatic data processing installation in this particular business.

Such a system should prove of incalculable help. Station representatives are concerns that sell national spot (or market-by-market) time on TV and radio for the stations they represent. They are a sort of clearing house so that advertisers who want to buy time in a market or a group of markets may do so without going to each station individually. They also actively sell time for their stations.

The beauty of the new equipment is the speed with which it collates data in a wide variety of forms. The master file for the system will quickly tell a station representative exactly what time is available in what cities, on what stations; what programs surround any special chunk of time the advertiser is interested in—all the complex of information that has made the station representatives' job a nightmare of paperwork in the past. Jones Scovors, vice-president of PGW, says now entire transactions can be completed in hours, or even minutes.

The equipment, based on Univac principles, took two years to construct, represents an outlay of some \$175,000.

• • •

## FTC Decides to Leave Trading Stamps Alone

After months of digging and head-scratching, the Federal Trade Commission says it isn't going to make trouble for trading stamps after all.

The commission says it does not think trading stamp plans, in themselves, are illegal. It has no complaints to file at this time against any practices by retailers who give stamps or the companies that promote stamp plans. Thus it calls a halt on its special inquiry, sparked two years ago by Congressional criticism and public complaints. Stamp plans will, of course, be under routine FTC study.

Actually, FTC never even hinted that the legality of stamp plans as a promotional technique was involved in its investigation. FTC staffers have said only that they were checking for possible illegal practices—such as price discrimination in the sale of stamps; exclusive dealing or other collusive action between stamp companies and their retail customers.

One factor in its decision not to launch a legal attack on trading stamps, says the commission, is the wide acceptance such plans have. A series of old Supreme Court decisions, which permit states to ban trading stamps, have been followed up by anti-stamp legislation in only three or four states.

• • •

## Merchandise Mart Will Let Public Peek at Custom-Built Furniture

One more time-honored barrier between the furniture manufacturer and the consumer is slipping. The Merchandise Mart in Chicago will open its sixth floor displays—where custom-built lines are exhibited—to the public for a couple of days next week. Until now, a firm policy of "retailers only" has kept the general public out of everything except the appliance exhibits.

Like the new Design Center for Interiors to be opened in New York (BW-Aug.17'57,p54), this show will let the customers just look, not buy. Some manufacturers, including big Kroehler Mfg. Co., have urged such a step for a long time. By exposing the consumer to many of the better lines at once, the exhibitors hope to make him more conscious of home furnishings.



# New Life in the Iron Country



PROCESSED IRON ORE lines up in trainloads at Minnesota yard of U. S. Steel's Oliver Iron Mining Div. Oliver now processes every pound of the ore it ships.

As Mesabi ores run leaner, steel industry bets heavily on beneficiation. They've found high quality matches high cost.

**T**HE GREAT iron range country of the U. S. is rumbling with a surge of new activity. The noise is the spread of iron ore beneficiation—not so wild as the oldtime scramble for mine sites and ore strikes, but an immense and spreading industry just the same.

For the mining companies, the new techniques for processing the vast reserves of low grade ore are bringing back dreams of the days of plenty when the high grade ores of the Mesabi seemed destined to last forever. But the mine owners will have to find several billion dollars to build the processing plants.

For the steel industry as a whole, it means getting more iron from existing capacity—in some cases a production boost equal to an extra blast furnace for each five now operating. Also, it means putting more production jobs on a year-round instead of a seasonal basis. On the cost side, it probably will add several dollars per ton to the cost of iron ore, and will create a need for more engineers and workers—already in short supply.

Essentially, beneficiation and the treatment of ore is a massive invasion of the mine site by modern technology. This invasion is largely centered in the world's greatest area of mineral deposits—the Lake Superior district that encompasses the mighty Mesabi, Vermillion, Cuyuna, Gogebic, Menominee, and Marquette ranges of northern Minnesota, Wisconsin, Michigan.

• **Second Wind**—Many miners find in the technological invasion a proof that the old Mesabi has gotten its second wind. Mostly, they've stopped clucking sadly about the "mined-out" Mesabi—which still in its advanced years supplies more than 60% of all domestic iron ore, and nearly 20% of the whole world's production. Yet they're astonished at the way beneficiation has taken over. After all, only 10 years ago a mere 23% of Superior district ore went through any significant upgrading before it was charged into the blast furnaces. The rest, known as direct-shipping ore, went into the iron making process almost exactly as it came out of the ground.

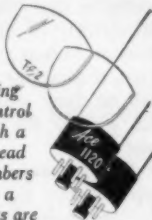
Then the change came fast. By 1956, concentrates made up 43% of total ore shipments from the area. This





## MARKED IMPROVEMENTS in IDENTIFICATION AND DECORATION

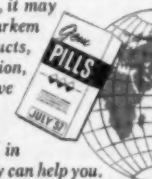
Now you see it, now you don't... sometimes characterizes marking done on Markem machines. This isn't a problem of fading, or wear and tear (our "Ink Lab" takes particular pains to see to that). Rather, it's where the marking shouldn't show normally, or where it's used only during manufacturing. An example of the first is putting a trademark on eyeglass lenses, using our 70AB machine and special "breath image" ink which is, as you might expect, visible only when breathed upon. The second type of "now you see it" marking is illustrated by production control numbering of radio tubes with a Markem 45AG machine, instead of hand stamping them. Numbers are removed and replaced by a trademark imprint when tubes are completed. Thus even "temporary" marking, done the Markem way, can be useful.



Seven come eleven, and other games... like the sporting goods story told here previously, are all part of "industry's marking requirements." They also show how Markem sees the job through, from machine to final mark.

Using a standard 25A machine, with special fixtures suggested by Markem, one manufacturer is now printing one side of 15 dice at a time. Compared to leaf stamping them individually, the Markem method has cut costs and boosted output tremendously—resulting in a second machine order. A similar business is running up their score, printing game tiles 132 at a crack with a special 25A. Whether your business is games, drugs, electronics, textiles, shoes or another field—your marking problems have answers at Markem.

From Belgium to Brazil... languages, customs and clothes may be different, but all share a common requirement for identification/decoration marking. Take pharmaceutical houses: in Chicago, New York and other U.S. locations... in Panama, Belgium, Brazil, Turkey and other spots around the world, Markem 45AE machines are imprinting batch and date codes on small cartons for drug items. Wherever your business is located, and whatever your marking needs, it may well pay you to see what Markem can offer. Ways to mark products, parts, packages—for decoration, identification or control—have been Markem's business for almost 50 years. Some good answers have been developed in that time—some that probably can help you.



When writing, state size, shape, material of item to be marked; rate needed, color requirements, etc. Include sample if possible. This saves time, insures the right machine and method for your job. Markem Machine Co., Keene 33, N.H.

# MARKEM

BUSINESS WEEK • Oct. 12, 1957

year, for the first time, the tonnage of concentrates will top that of direct-shipping ores.

It's a safe bet that the days of direct-shipping ore are numbered. In a year or two, no ore will leave the district without some form of beneficiation, though it may be as simple as the separation of coarse and fine particles of ore. U.S. Steel's Oliver Iron Mining Div., largest producer in the district, already treats all of its output on the range.

There are pressing reasons for the switch. High quality ore is running low; to get what's left even up to standard grade requires some treatment.

• **A Richer Diet**—The biggest reason of all is that steelmen have found that the cheapest way to get more iron is to feed their furnaces better raw materials. They can do it in two ways:

- Increasing the iron content of the ore, and lowering the amount of undesirable impurities such as silica.

- Processing the pieces of ore to sizes that permit the blast furnace to "breathe" better through its charge of ore, coke, and limestone.

In theory, furnace operators have long recognized that a better diet would make their equipment perform better. But it took two developments to translate this theory into action:

**The rising cost** of new steel capacity—just about doubled in 10 years—makes any alternative look better than building furnaces and mills.

**The fine performances** of both richer foreign ores and of the first carefully sized concentrates made experimentally from taconite made a big impression. That meant that U.S. steel capacity could be boosted 25-million tons a year without building a single new blast furnace. Beneficiation plants would cost much less than blast furnaces.

• **What's Next?**—The only real question left is: Where will beneficiation stop? Already, in taconite processing, the concentrate is sintered before it's shipped—thus adding an extra baking step that regular open pit ores haven't got. There's even talk of doing more sintering of regular ore on the range.

A much longer step might follow if—and this is still a big "if"—the steel industry succeeds in developing a cheap, practical reduction process to turn iron oxide—the basic ore—into metallic iron without running it through a blast furnace. Then, the direct reduction plants might be set up right after the beneficiating plants.

Achieving this is more than an idle dream for the men who run the mines. They have the momentum and the urge to achieve the change. To see how far they've come and how fast they're going, take a closer look at the business of beneficiating regular ores (next page) and taconite (page 138).

## More businesses



## are group insured



## in the AETNA LIFE



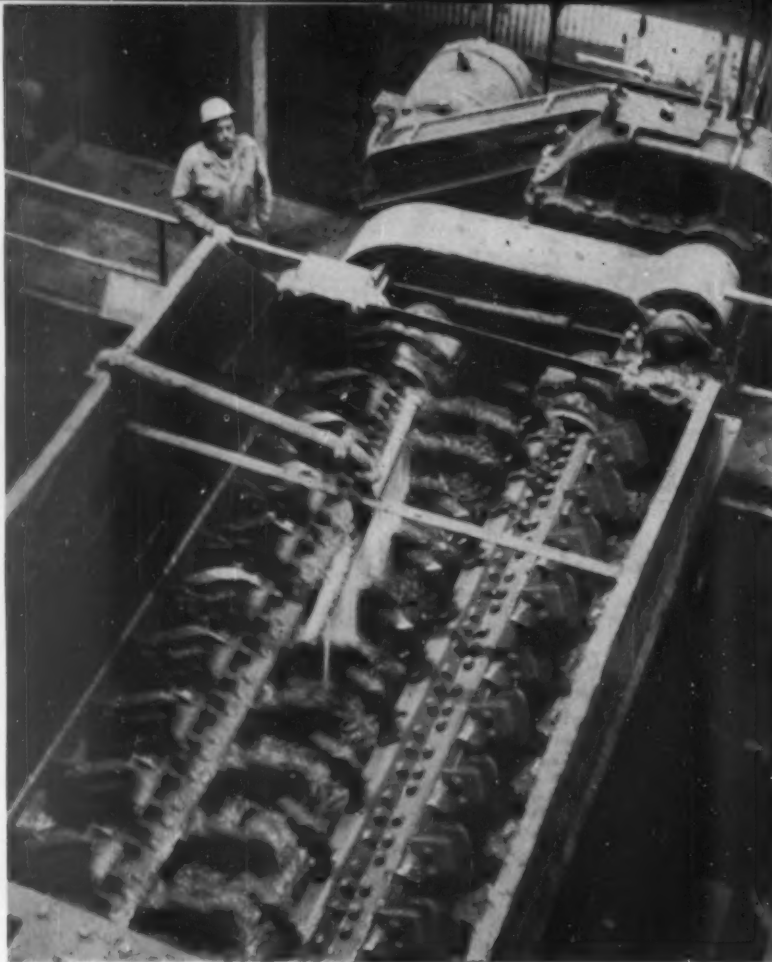
## than in any



## other company



Affiliates: Aetna Casualty and Surety Company  
Standard Fire Insurance Company



**LOG WASHER** is an elementary step in beneficiating iron ore. Fast flowing water, plus spinning paddles, serve to separate out heavier chunks of ore.



**SHIFT TO BENEFICIATION** is bringing new construction all around the Superior district. This is a secondary screening plant for Oliver Iron Mining Div.

## Souping Up Ore

"From now on, even the best Mesabi ores will have to be treated to improve their structure, size, or chemical analysis—on all three—before they meet the new standards of quality the industry is setting up." So says Russell C. Fish, operations vice-president of Hanna Coal & Ore Corp. Few in the industry disagree with him.

What's more, the whole industry agrees that the beneficiating job will become ever more complex and more costly as ore specifications go up and the quality of ore in the ground goes down. Where it doesn't agree is on what the eventual degree of treatment will be, how long it will take to build the plants, and how much they will cost.

• **Wide Range**—You can see the vast gap between the simplest beneficiation methods and the most complex in the diagram at the right. The simplest, a crushing and screening plant, would cost about between \$300,000 and \$500,000 for a 1-million-ton-a-year capacity. A full scale concentrating plant of the same tonnage might possibly run as high as \$5-million if it had all the trimmings.

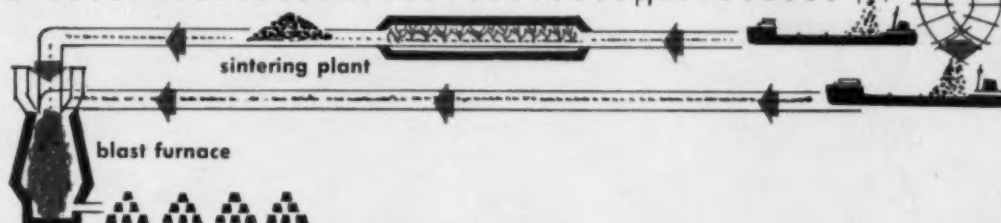
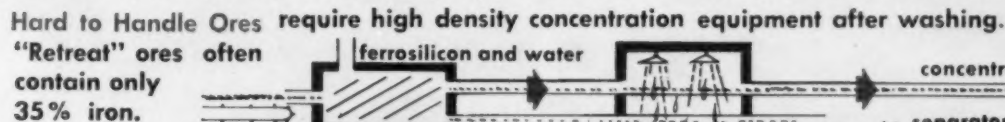
Of course, the beneficiation plant is tailored to the ore in the pit. A crushing and screening operation merely breaks up the big hunks of ore and sifts out the fine particles. The coarse screenings are best for a blast furnace; the finer sizes tend to block the flow of gas through the furnace. So, the fines are shipped separately to the steel mill where they are sintered into larger chunks suitable for the furnace. Just this year, steel mills are building 18 new sintering plants, with a total capacity of 25-million tons, to handle the increased deliveries of fine particle ore.

• **Higher Requirements**—Crushing and screening is effective only on high quality ores—the direct-shipping ores that come out of the ground with a better than 50% iron content. There is still an immense amount of this type of ore in Minnesota—reserves are calculated at 600-million tons. But blast furnace operators are constantly raising their specifications. Ore of 51½% iron, the base quality used to calculate prices, is now considered pretty lean. Which means that most of the direct-shipping ore left in the Mesabi will be run through concentrating plants that do considerably more than mere crushing and screening.

Washing is the most common of the concentration techniques, especially for ores that contain a lot of fine loose sand that separates easily from the chunks of ore. In a typical plant, the

**Ores with more than 50% iron content are improved by screening out finer particles and crushing large pieces to blast furnace size**

**Ores with more than 50% iron content are improved by screening out finer particles and crushing large pieces to blast furnace size**



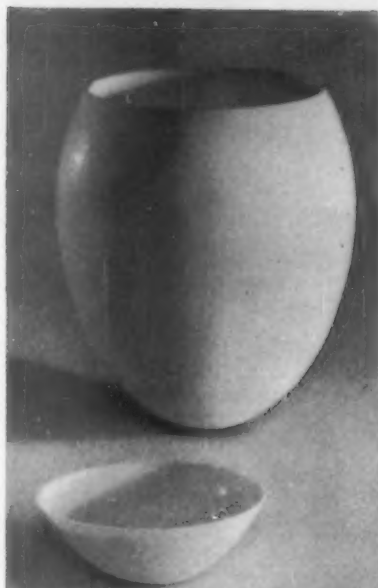
ore is crushed to chunks of a maximum 3-in. to 5-in. size. The coarse and fine sizes are then separated, and each type is sent on its way through one

or more rough tumbles in plenty of water.

The first concentrator is a log washer—a long inclined trough. Two rotat-

ing shafts bristling with steel paddles push the ore upstream through a fast flow of water which carries away the finer, lighter particles and leaves the





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Airbrasive Unit

We're not recommending our Airbrasive Unit as the best way to open your breakfast egg... but this photograph dramatically illustrates the delicate, precise industrial cutting you can do with it. Developed from the Air-Dent equipment made by S. S. WHITE for the dental profession, the Airbrasive Unit gas-propels a fine stream of abrasives. It's a safe, effective way to remove surface film... cut, shape or abrade hard, brittle materials. We'll be glad to test the process on your sample parts. For further information, just write to

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"... unfortunately for the miners, not all the low-assay ores yield docilely to the mere washing process..."

STORY starts on p. 134

coarser bits that are richest in iron.  
• **Spirals or Rakes**—Even the fine particles contain a lot of iron, so they go for other runs through other classifiers, either rotating spiral or rake, which separate the denser ore from the lighter particles of silica or sand. This process concentrates ore particles that compare in size with fine gravel or coarse sand.

There is still ore in the effluent from the spirals and rakes; enough so that of the 53 wash concentration plants in Minnesota, 38 take the process to a further step.

Recovering the very fine bits demands more equipment. Some use Humphreys spirals, some use centrifugal units called cyclones, some use both.

A cyclone spins the mixture of ore and water around in a closed chamber. The heavy particles sink to the bottom center, the lighter ones work to the edges where they can be drained off and discarded. The retained product of the cyclone can be concentrated further in a bank of Humphreys spirals. As the water and particles run down these long spiral troughs, the lighter particles tend to ride high on the outside of the curves, while the heavier, iron-rich bits travel more slowly on the inside, whence they can be drained off at intervals.

• **Typical Case**—You can see a typical modern washing operation, with cyclones and spirals, at Oliver Iron Mining Div.'s Plummer Mill on the Mesabi. There, the open pit mine delivers ore assaying 40%-45% iron, and 25%-30% silica. Minimum commercial quality is at least 50% iron and less than 10% silica.

In the Oliver ore, there's a lot of loose sand, so it's easy to get out most of the silica. At the crusher and screener, coarse bits up to 4 in. in diameter, containing about 55% iron, are separated out without washing. The rest goes to log washers that separate out a coarse gravel containing 59% iron.

Now, the effluent goes to rake classifiers, which extract fine bits to form a grainy mixture containing about 57% iron. What is still left is processed through cyclones and spirals that extract a black, thick mud containing 62% iron.

All these concentrates, coarse and fine, are shipped separately to the ore boats at Duluth. Collectively, they average well over 55% iron and less than 10% silica.

Unfortunately for the miners, not

all low-assay ores yield as docilely as this to mere washing. In some, called retreat ores, the iron is too evenly mixed and too tightly bound to the silica. These must go through an ordinary washing, and then be crushed to 1-in. pieces, which are subjected to selective flotation by a process called high density, or heavy media, which relies on the fact that iron is much heavier than silica. So, the ore is mixed with a liquid which has a density halfway between the two; the silica floats to the top, the iron sinks to the bottom.

High density equipment just about doubles the cost of a washing plant. On top of that, it needs about \$10,000 worth of ferro-silicon or pure magnetite, which are used to bring the liquid to the desired density. But the process is tremendously effective, and is used at 29 plants in Minnesota. A typical one—Oliver's Arcturus Mill at Marble—gets these results: Ore averaging only 34½% iron and 45½% silica is washed to 53% iron and 17% silica. Then the high density brings the iron content to 57% and the silica down below 9%.

Blast furnaces thrive on the reduced silica. Operators figure that for each percentage point reduction in silica, they save 26¢ per ton of pig iron. Also, they need less limestone and coke in the charge, which also boosts efficiency.

Reserves of soft ore suitable for washing and high density are ample for years. Beyond them, lie enormous quantities of rich but stubborn ores needing other treatment. One, called paint rock, is rich in iron but is so clayey that it gums up washers. Since it's one of the most common minerals in the range, it offers a great challenge to technology, which up to now has found no answer.

Research in beneficiation of these stubborn ores is now getting a great boost as new price formulas make highly beneficiated ores highly attractive, even at quite high prices. It may even become economically feasible to use such processes as chemical beneficiation or the heat-transformation of non-magnetic hematite into magnetite, which can then be separated by magnetic means.

Right now, the most promising new projects in beneficiation concern hard-rock taconite and jasper ores. The projects are the most expensive in the history of mining, but they aim at tapping the very mother lode of the range (next page).





## Can you always believe your eyes?

When watching feats of magic, you're almost inclined to believe what your eyes *seem* to see. In another and far more important way, you can be misled by your eyes . . . and not know it.

For example, some eye disorders develop so slowly that they are often not noticed in the beginning. In fact, the eyes may seem perfectly all right at the very time they are misleading you.

So, the best safeguard you can take against eye trouble that you may not suspect is to have your eyes—and those of each member of your family—examined periodically by specialists.

It is particularly wise to have a child's eyes checked early in the pre-school years, before eye disorders can seriously hamper personality development or interfere with educational progress when he starts to school.

Today, authorities estimate that about 9 million school children need some form of eye care.

Adults, especially after age 40, should have their eyes examined at least every two years by an eye specialist. This

is the surest way to guard against glaucoma and cataract, the two major threats to the sight of older people.

These eye examinations have an added value. They may lead to early diagnosis and control of diabetes, high blood pressure and hardening of the arteries.

Treatment for many eye diseases has been vastly improved recently. The antibiotic drugs work wonders in many eye infections, and hormone compounds save sight in some eyes which would be doomed without them.

Moreover, glaucoma-blindness can be avoided in most cases when diagnosed early and treated properly. Sight lost due to cataracts can be restored by surgery in almost 90 percent of the cases.

Delicate surgical operations may also restore vision in some cases where the retina has become detached. It is possible, too, to restore vision in certain kinds of cases, by transplanting the cornea from good to diseased eyes.

Medical progress in sight-saving is a great achievement. However, good sight throughout life depends largely on what you do to give your eyes the regular care they deserve.

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ROD MILLS, 27 of them in a row, grind crushed chunks of taconite into power at Erie Mining Co.'s concentration plant.

# Iron Ore From Leanest—Meanest Rock of All

Last year, Reserve Mining Co. built a \$200-million plant at Silver Bay, Minn., on the north shore of Lake Superior, to beneficiate taconite—the leanest, meanest iron ore of them all. It was the first large-scale commercial attack on taconite, and easily the biggest industrial complex in the ore country.

This year, Erie Mining Co. topped Reserve with a \$300-million taconite plant at Hoyt Lakes (pictures). The first concentrated ore pellets will be turned out this year; full production is due next spring.

Half a billion dollars is a lot of money to sink into processing so tough a customer as taconite—a very old, very hard sedimentary rock layer, in which are locked fine particles of iron oxide in the form of magnetite. But there's good reason for the move.

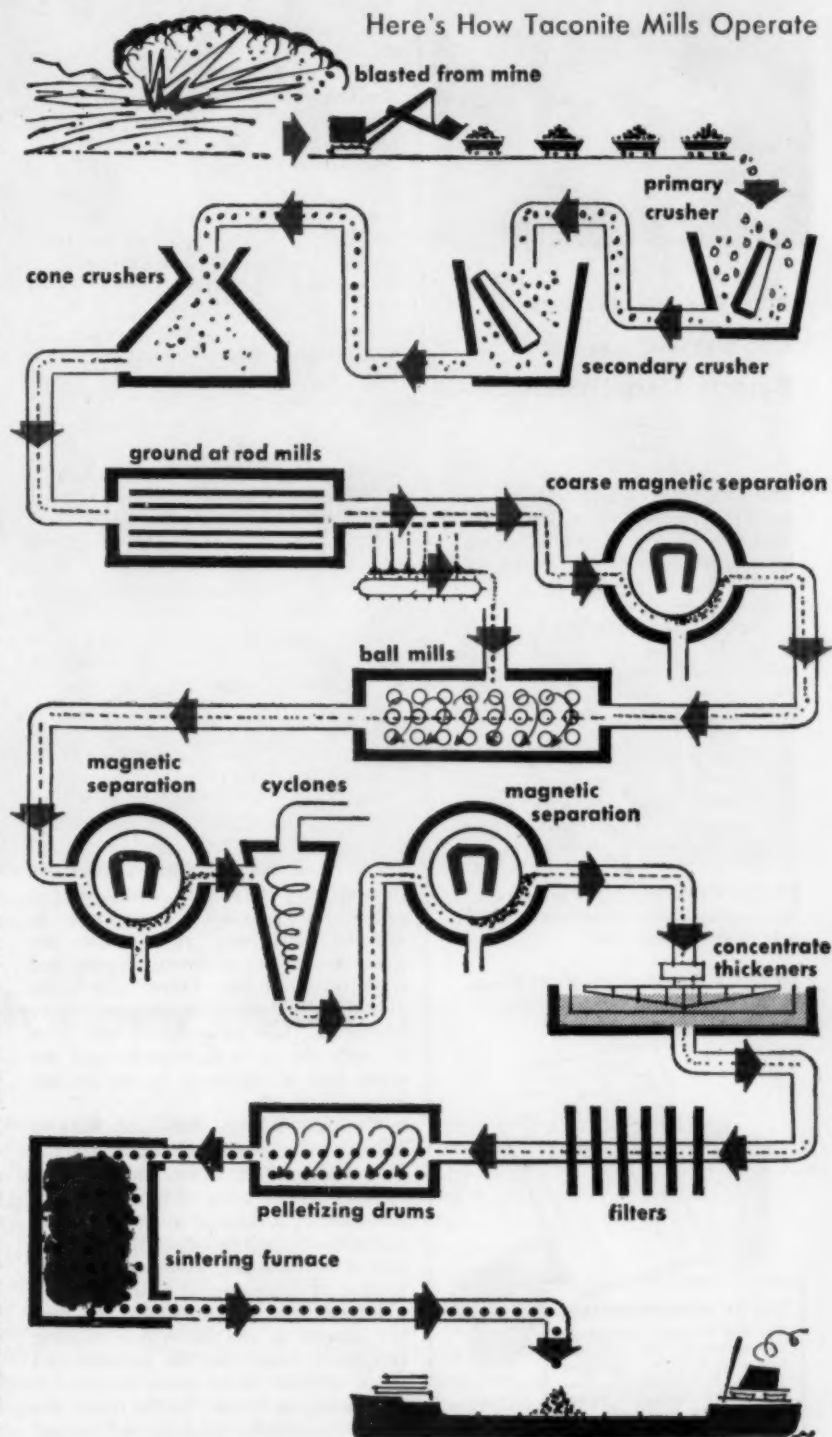
• **Widening Gap**—The steel industry's projections show that the ever growing demand for steel will mean that, by 1980, there will be a 50-million-ton annual gap between the demand for iron ore and the utmost supply that can be gleaned from imports plus direct-shipping ores and the simpler forms of beneficiation.

Something has to fill the gap, and taconite is the likeliest candidate. There's no end to its quantity. The whole vast area of the Mesabi Range is virtually one sheet of taconite, varying in depth from 200 ft. to 600 ft. Other huge deposits have been blocked out in the Superior district, the western U.S., and in Canada. There's no firm estimate of total reserves, but Reserve Mining alone has proven reserves of 1.5-billion tons. At about 25% of recoverable ore, that equals a quarter of all the high grade shipments made from the famous Superior district in 70 years.

All this ore is locked in the hardest rock known to geology. It's so hard it can cut glass; it takes 55,000 lb. of pressure to crush a 1-in. piece of it. Many's the miner's pick it has quite literally broken.

• **Despite the Cost**—For all the difficulty and cost of getting out the ore, the industry still wants it. Engineering & Mining Journal, a McGraw-Hill publication, says the one problem is getting the capital to develop taconite. The steel industry is by no means sure that the 20% gain in blast furnace efficiency will balance the added cost of this most expensive of blast furnace diets. But that's not the point. A visible 50-year supply of ore has always made the industry ready to forget costs. It has already underwritten overseas development costs of \$46 per ton of annual capacity of iron ore, compared to an

Here's How Taconite Mills Operate



estimated \$55 a ton for pelletized taconite.

The simplified flow chart above explains some of the high cost. Spe-

cial drills and blasting techniques are needed to shatter the bedrock into big chunks. These chunks then have to be reduced to a fine powder—not just





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**" . . . doubling current production, plus the future U.S. Steel installation, should bring the Mesabi investment in taconite to well over \$1-billion . . . "**

STORY starts on p. 134

the 1-in. or 2-in. pieces that will do for regular ore. Not till then can the magnetite ore be extracted with any efficiency by magnetic drum separators.

This is not the end, since fine powder cannot be fed into a blast furnace. The powdered ore has to be reconstituted into chunks by pelletizing, sintering, or some other process. This means more equipment, more handling of huge tonnages, and much more heat.

• **Collective Effort**—These costs are too huge to be attacked by any single company, except possibly U.S. Steel. Thus Reserve Mining is a joint project of Republic Steel and Armco Steel, which will split the annual production of 5-million tons of pellets now, and 10-million tons eventually.

Erie Mining, managed by Pickands Mather, has four owners: Bethlehem Steel, 45%; Youngstown Sheet & Tube, 35%; Interlake Iron Corp., and Steel Co. of Canada, 10% apiece. The plant is designed to produce 7.5-million tons a year, and it could very easily be expanded.

Meanwhile, huge U.S. Steel has not been ignoring taconite. Since 1953 its Oliver Iron Mining Div. has been operating a 500,000-ton experimental unit called Pilotac at Mountain Iron, Minn. Up to now, 2-million tons of concentrates have been produced from 8-million tons of taconite. And Oliver is piling up invaluable experience in taconite processing, against the day when its reserves of direct-shipping and wash ores run low. Oliver still holds almost half of the better ore reserves in Minnesota, but some day it will have to make the move to taconite, and the move will of necessity be on an immense scale.

• **Variants**—Pilotac, Erie, and Reserve differ in many processing details, though their end product is the same sintered concentrate, running 63% to 65% of iron ore. The biggest difference is in methods of agglomerating the powder, and of sintering the pellets to resist the jostling of shipping and handling.

Pilotac tries two methods. In one, the powder is run through a rotating furnace—it looks like the business end of a cement plant—and emerges as hard, irregular lumps. In the other, the powder is mixed with coke and burned in a moving grate. The fused particles emerge as large clinkers which are broken up to small, jagged pieces.

Reserve uses rotating drums to make pellets out of wet concentrate, then coats them with powdered coal, and

sinters them in a horizontal furnace.

Erie puts a bit of clay and coal in the concentrate before running it through the balling drum. Then the pellets are fed into the top of a vertical furnace, which fires them and feeds them out the bottom like a steady stream of ashes.

Reserve and Erie tried different approaches to the placing of their plants in relation to mine and shipping point. Reserve built its plant right at the lakeshore, so that it can feed pellets directly to the dock. Erie's setup is as close as possible to the mine. Thus, Reserve has to tote its raw taconite 47 miles by rail from the mine and crusher. Erie, on the other hand, has only the concentrate to be hauled by rail, since the 75% waste material has already been eliminated.

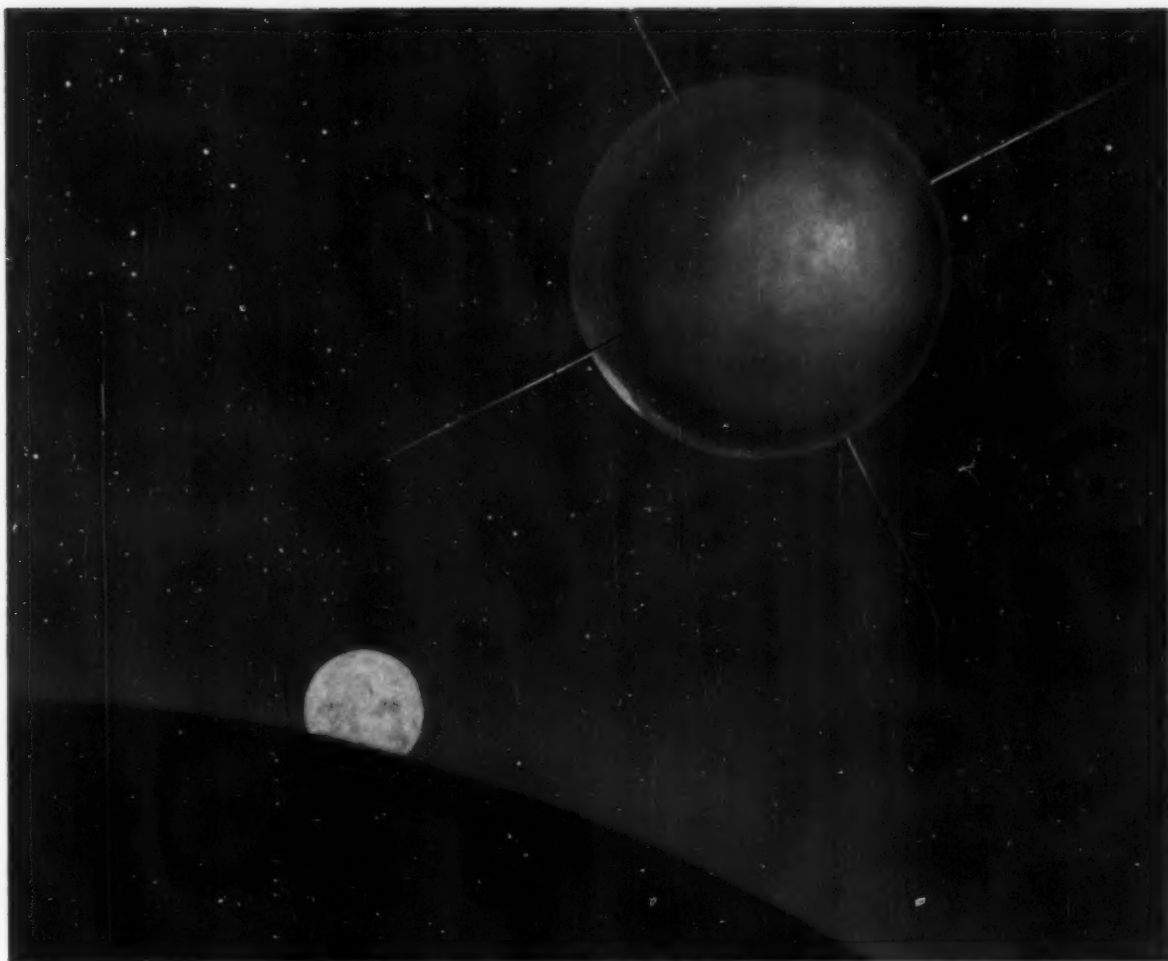
Whatever the relative advantages, especially in coping with the grim winter weather of the area, it is believed that Reserve and Erie will be turning out pellets at about the same cost per ton—though just what that cost is neither will say. And, with that 50-million-ton future ore deficit hanging over the steel industry, it is a pretty sure bet that they will ultimately double their current 12.5-million-ton collective capacity. That building, plus the future U.S. Steel installation, should bring the Mesabi investment in taconite to well over \$1-billion.

• **Jasper, Too**—Meanwhile, across the lake in Michigan, two smaller ventures are being made into the beneficiation of jasper ore—an equally tough, but non-magnetic cousin of taconite. Marquette Iron Mining Co.—which is owned by Cleveland Cliffs Iron Co., Inland Steel, International Harvester, and Wheeling Steel—has a 600,000-ton annual capacity of pellets. Humbolt Mining Co.—a joint operation of Ford Motor Co. and Cleveland Cliffs—turns out 300,000 tons of non-pelletized powder. Plans on foot at the moment would raise their joint capacity to 2-million tons a year, and Hanna Coal & Ore Corp. will build a third plant, at Groveland, in the Menominee Range.

The industry won't talk about the relative costs of beneficiating jasper and other non-magnetic ore as compared with taconite. But since these ores, too, occur in enormous quantity, and everyone can see that the future will bring an almost boundless demand for more ore, it is a reasonably safe bet that the jaspers are now going to be in for heavy exploitation. **END**

BUSINESS WEEK • Oct. 12, 1957





General Electric Company has built one of the rocket engines that will launch the earth satellite in Operation Vanguard. A new fuel developed by Shell Research provides the power.

## How to launch a new moon

**I**N the almost airless exosphere 300 miles above the earth, the first man-made moon will soon ease into its orbit. At five miles a second, it will whip around the earth some fifteen times a day.

The engine for the first and biggest of the three rockets that will carry this satellite to outer space is now being built by General Electric. It is powered by a product of Shell Research called *UMF*\*. This fuel is actually a highly specialized kerosene, refined in a controlled operation that gives it the characteristics needed for rocket use.

\*Reg. U. S. Pat. Off.


When burned with liquid oxygen, *Shell UMF* provides the tremendous thrust that accelerates the whole rocket assembly to 4000 miles an hour in just two minutes. And because *UMF* performs consistently in test after test, even at great speeds and altitudes, scientists can make the precise calculations vital to success in the final launching.

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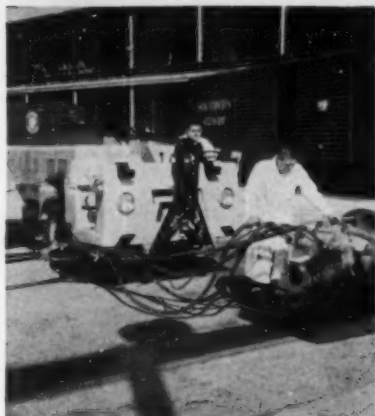
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## NEW PRODUCTS



### Wheel Power Units Move Jets on Land

Hauling huge jet airliners around airfield strips and hangars is a problem that has the commercial flying trade worried. Even the biggest flightline tugs now in use are expected to have trouble moving the 250,000-lb. planes, especially when the surface is slippery.

One solution that is being studied is the demountable power unit pictured above. One unit attached to each of the plane's main landing wheels supplies motive power directly to the wheels. The hydraulic power for the units comes from a power cart, connected to the wheel units by flexible couplings. When in use, the cart is attached as an appendage of the plane itself, with its engine in free wheeling so that it rolls along with the plane.

• **Electricity**—At the same time, the power cart supplies electricity to the plane, whose own generators do not run while the jets are cut off.

When the wheel power system is functioning, the plane's pilot controls the taxiing of the plane remotely.

The unit, minus the air system for starting engines, would cost around \$30,000. Addition of either an air bottle system or a gas turbine compressor would add another \$20,000.

Of course, Consolidated Diesel's wheel units are not the only plane moving methods being considered. Other approaches are:

- Leaving the jets at the end of the landing strip and bringing passengers and luggage back to the terminal in buses.

- Building an underground cable system to which the planes could be clamped for towing, like the San Francisco cable cars.

- Taxiing the jets up to the terminal under their own power.

- Using giant 40,000-lb. tugs.



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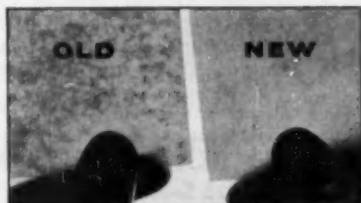
With Neutrancel, Hammermill is now making finer paper than was ever possible with softwood alone. Blending Neutrancel with other quality pulps knits *all* the fibers together more closely to give Hammermill Bond the smoother, more uniform surface you need for better-looking business letters. See the picture at the right. There's less of the show-through that distracts readers. Greater bulk—for that important snap and feel. A better

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## LOW COST LATHE Accurate to 0.0005-inch

Photo above shows how Clifford Mfg. Co., New England heat exchanger and metal bellows manufacturer, uses standard Delta 11" Metalworking Lathe for intricate precision machining. Low-cost Delta Lathe machines fittings and bellows connectors, cuts tool steel and drill rod trimming arbors, constantly maintaining the specified plus-minus 0.0005-inch tolerance. Delta Lathe is

also used to machine tiny Monel pins 0.375-inch long. Clifford Co. is one of many manufacturers who have cut production costs by using multi-purpose, inexpensive Delta Power Tools to supplement—and often replace—expensive, special-purpose machines. For other examples, write:

**ROCKWELL MANUFACTURING COMPANY**  
DELTA POWER TOOL DIVISION  
540K N. Lexington Ave., Pittsburgh 8, Pa.



## Self-Propelled Cart

This self-propelled serving cart is designed for labor-starved large hospitals: With it, girls can deliver meals, thus releasing heftier, and scarcer, male attendants for other work. The cart is powered by batteries, which are automatically charged while the meal dispenser is being preheated. The cart does 2 mph. forward, and 1/4 mph. in reverse. The brakes set automatically when the operating button is released, like a dead-man's switch. The cart is made by S. Blickman, Inc., of Weehawken, N. J.

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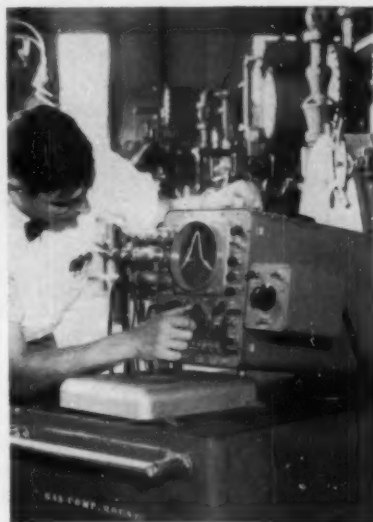
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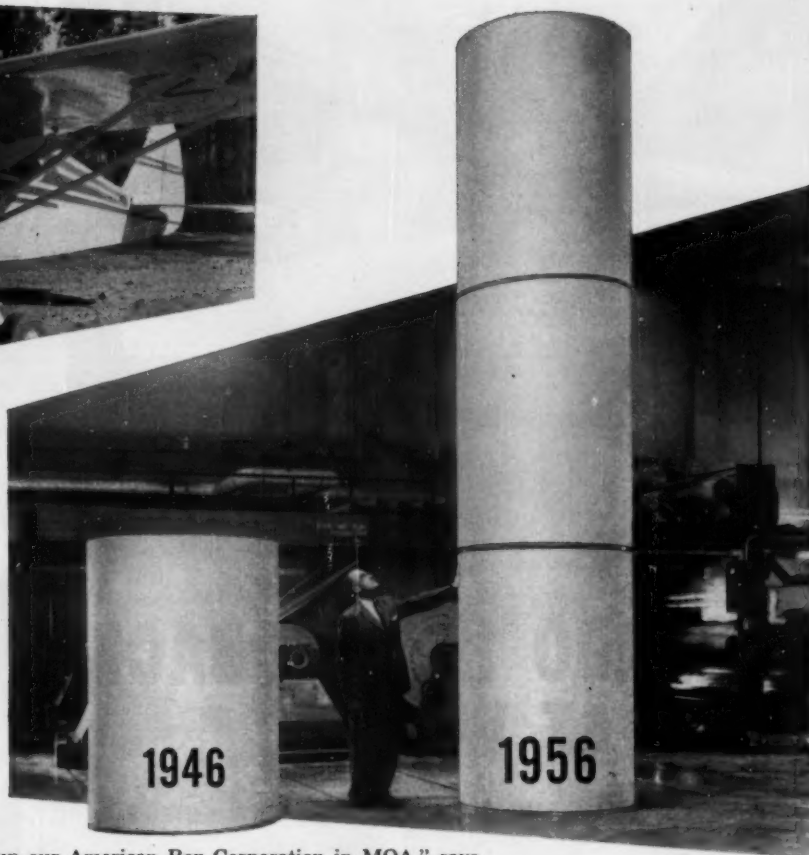
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## Tests Running Engine

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"We had four reasons for setting up our American Box Corporation in MOA," says Charles T. Gray, President of American Forest Products, whose ABC division turns out corrugated containers as well as the paper which makes these containers, in their Newark plant.

"First, our customers are here. We are in the center of the second greatest market in the West.

"Next is weather. Climate in the Newark area is wonderful for productivity.

"Availability of labor is highly important in the Metropolitan Oakland Area. So are transportation facilities. We are at the crossroads of the world with trucks, trains, ships and planes at our very doorstep.

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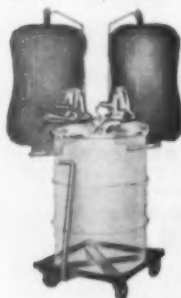
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Write for Bulletin No. 660

### BREUER ELECTRIC MFG. CO.

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then get a graphic picture of the engine's performance on the tester's cathode ray screen. The tester is designed for large industrial engines, either spark ignited or diesel. It correlates ignition, vibration, and pressure data, then tells you whether the engine is running smoothly, and if not, what's wrong. Sperry claims the engine analyzer can detect ignition mistiming to within a single degree of the crankshaft's circle.

The analyzer picks up the data it needs from a series of leads that are attached to the engine. Sperry expects it to find wide use in the natural gas, chemical, and petrochemical industries, where whole banks of large reciprocating engines are run on an around the clock basis. Sperry says that one plant, which uses 80 natural gas engines, saved about \$4,800 a month by using an early and much simplified prototype of the 36-lb. analyzer.



## Versatile Copier

A portable photo copier that can handle any printing, writing, or drawing, whether on single sheets or in bound volumes, is being marketed under the trade name of Contoura Portable by the F. G. Ludwig Co., Inc., of Old Saybrook, Conn.

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## How "Wrathful" Reagan found room for joy...

**E**ACH MORNING big boss Reagan arrived. Charming, urbane, boutonniere. By 10:15 — *berserk!* Trapped! Transformed by skimpy desk and chair into a wrathfully seething volcano! Cramped in the vise of *no-room-to-work!*

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panel perforated for smart effect and free circulation of air. New leg base under each pedestal (shown) or standard island base.

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**MORAL:** In business, volcanoes are not born — but made by inadequate furniture.



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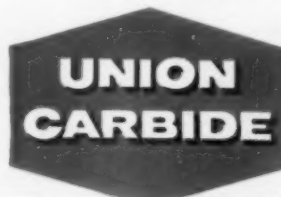
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# INTERNATIONAL OUTLOOK

BUSINESS WEEK

OCT. 12, 1957



Despite Washington's public display of calm over the Soviet satellite, U. S. officials privately recognize its impact on our position abroad.

One State Dept. official put the new situation this way: "The Russians, in the eyes of the world, now occupy just about the position which we occupied in 1945 when we gained an atomic monopoly."

The danger today is that our allies, even in Western Europe, might downgrade their reliance on the U. S., shift to a neutral stand.

Washington expects the Russians to play their advantage for all it's worth. There is no thought now, as there was a few months back, that the Russians might make real concessions to get an understanding with the West.

Khrushchev's tactics already are clear. He will mix specific threats with general pleas for peace and disarmament. For example, pressure will be put on strategic Turkey—both through threats from Moscow and by efforts such as those being made this week by Marshal Zhukov to get Yugoslavia to turn against Turkey.

All the while, Khrushchev will keep pushing for a bilateral deal with the U. S. By doing so, he will lessen the pressure on Moscow to make concessions, and he will fan allied fears of a Big Two deal.

The Administration has no intention of making any dramatic moves to counteract the Soviet success—at least not in the area of disarmament. No concessions are planned beyond the offer to separate the proposal for studying international control over outer-space vehicles from the rest of the Western disarmament package.

Nor is there any intention of engaging in bilateral talks with the Soviets, as suggested by Khrushchev. Washington isn't prepared to change basic U. S. political positions on Germany, Eastern Europe, the Middle East, or the Far East.

Some Administration officials think the shock to U. S. complacency may make it easier to sell Congress next year on a larger aid program and a more liberal trade program. These officials say that this would be one of the best ways of counteracting Soviet gains, especially in Western Europe. But Administration politicians wonder whether such an effort might backfire, lead Congress to put all the stress on developing our own continental defenses.

—•—

Brazil and Colombia are both headed into real financial trouble—largely because of a drop in their coffee earnings. Both countries are likely any day now to ask Washington for large-scale emergency assistance.

Their chances of getting much U. S. help aren't too good. Both already are deeply in debt to the U. S.—and Washington is painfully short of funds for foreign assistance.

Brazil's financial jam is bound to be serious before long. Export earnings are off 13% for the first eight months of the year. That's largely due to sagging coffee prices, but cotton and cocoa exports did badly, too. At the same time, imports were up nearly 30%. Paying for them took Brazil's foreign exchange reserves to a dangerously low level.

Brazil already owes \$435-million to the Export-Import Bank; it has

# INTERNATIONAL OUTLOOK (Continued)

**BUSINESS WEEK**  
**OCT. 12, 1957**

borrowed 50% of its quota from the International Monetary Fund; and this year it must repay a total of \$200-million.

Colombia is only slightly better off. It has managed to fund about 80% of its large commercial debt through private U. S. banks and with the help of a \$60-million loan from Ex-Im but Colombia is scheduled to repay its debts to the tune of \$120-million a year for the next three years. That requires it to hold its imports to \$25-million a month, or to about half what they've been running for the past three months.

Behind the troubles in both countries lies the softening coffee market—plus internal inflation, excessive imports, heavy debt repayment, and capital flight.

Coffee prices have dropped heavily the past few weeks. Washington experts expect them to slide some more, and to stay down at least through the next crop year.

With production up in almost all Latin American coffee-producing nations, a real surplus problem has developed. African coffee is taking a bigger slice of the U. S. market as the demand for instant coffee, which uses strong African blends, continues to rise.

Argentina's economic troubles are coming to a head. The Central Bank recently sold scarce gold and dollar reserves to support the free-market peso, which hit an all-time low of 47 to the dollar in mid-September. This week the bank tightened credit, forced importers to pay cash for U. S. and foreign goods. But few observers believe this drastic move will effectively check Argentina's spending binge for imports, which—along with continuing political instability—keeps inflation roaring.

In Western Europe, there is this economic picture:

France is getting no nearer to a solution of its economic woes. The breathing spell gained during the summer—from import cuts and a semi-devaluation of the franc—is running out. And the country today is once more without any hope of a government that can take decisive action either on Algeria or on its economic drift.

West Germany expects a 3% to 5% increase in industrial costs. The Ruhr coal mining industry has upset the cost apple cart by raising coal prices \$1 to \$1.50 a ton. The unions, too, are determined to have higher wages. The parade is led by the 1.7-million-member metalworking union.

Britain is enjoying a respite from international financial strains. Sterling has bounced back strongly, putting London in a relatively easy position until the winter wage test comes to a head (BW—Oct. 5 '57, p. 86).

Britain's plan to link up with the European Economic Community is facing increasing opposition from the six Common Market countries. So real negotiations for building a free trade area around the Economic Community may have to be postponed.

The chief opposition to the British plan is coming from France. The French have been allowed to join the Common Market with their high tariffs and high farm subsidies largely intact. So they fear the more liberal trade policies that a wider free trade group would favor.



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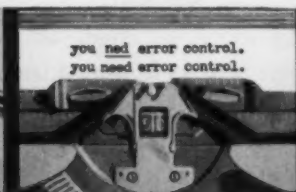
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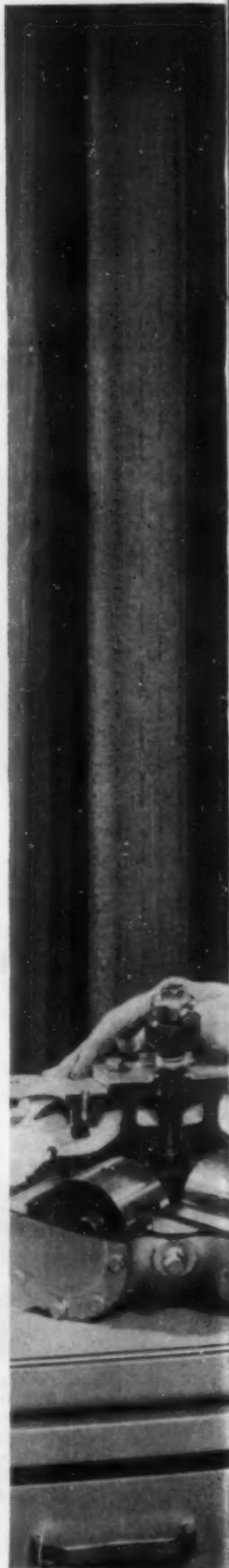
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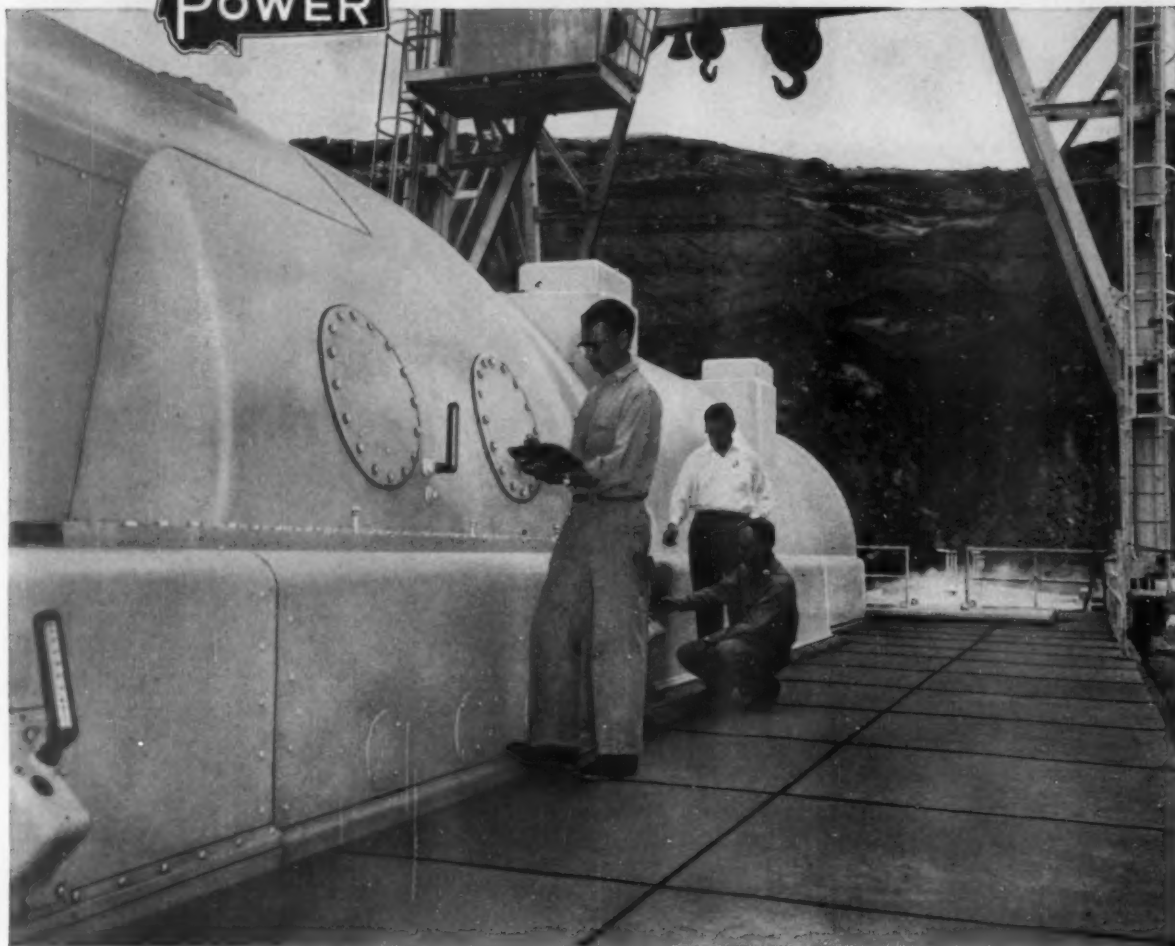
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FELLOW REPUBLICANS Knight (center) and Knowland (right) are California gubernatorial rivals. Nixon (left) is big imponderable.

## Knowland Aims His Fire at Labor

**Senator is making union reform central issue of his campaign. If it evokes popular support, the issue might become national.**

California is shaping up as the first major forum in which the sins of organized labor as catalogued by the McClellan committee must pass in political review.

That became evident last week when Sen. William F. Knowland, after a month of preliminary skirmishing, formally announced his intention to run for governor against the incumbent, his fellow Republican, Goodwin J. Knight.

Knowland's ambition came as no surprise. It's no secret that he aspires to the GOP Presidential nomination in 1960. Getting elected governor of an influential state is, to his orderly mind, a proper step in the direction of the White House.

• **Feeling Public's Pulse**—Ever since Labor Day, Knowland had been marching up and down California making speeches—ostensibly rendering an account of his stewardship to constituents—but actually feeling the public

pulse on one central issue, trade union reform.

Now that he has acknowledged his candidacy, Knowland will bear close attention. As the outstanding spokesman for the conservative wing of his party, the minority leader of the Senate is the first important politician to exhibit what the political medicine men call the McClellan committee syndrome. Campaign managers with an eye cocked on the 1958 Congressional elections will have plenty of time to decide whether Knowland has struck a popular chord with the voters.

• **Explosive Issue**—Was he right in deciding that the public is fed up with abuses by the racket element in the unions and is clamoring for reform?

Obviously Knowland thinks he was, for he has chosen to make a blunt espousal of a right-to-work law in California. He calls it "voluntary unionism." The so-called right-to-work law and its parallel prohibition of the union shop is anathema to union leaders everywhere, but especially in California where they have been strong enough to knock it down every time it comes up.

For that reason alone the boldness of Knowland's attack drove a lot of Cali-

fornia politicians to cover. In their eyes, a frontal assault on labor unions in California, whether justified or not, makes as much political sense as a crusade against popery in Massachusetts or segregation in Arkansas.

• **Evidence of Support**—But Knowland is no babe in the political woods. His associates claim he has abundant evidence that the pendulum of public sympathy, assisted by revelations before the McClellan committee, is swinging away from the unions. His followers claim that the senator has received voluntary mail from union members and leaders expressing sympathy for his views on right-to-work laws that he has been expounding around the state. His supporters also point to four or five opinion polls made for organizations backing the senator that credit him with a big lead over Knight. At mid-September the California poll, a nonpartisan tally by Field Research Co., San Francisco, put both Republican aspirants far ahead of the probable Democratic nominee, Attorney General Edmund G. Brown, with Knowland the stronger.

• **The Announcement**—From his home in Oakland, Knowland journeyed 80 miles to Sacramento to declare his





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candidacy before a group of 30 newsmen and 25 radio-TV technicians. For the event, he chose a room in the Senator Hotel perhaps 200 yards across the Capitol lawn from where Goodwin Knight, in the governor's chair, meditated on the angry words they have already exchanged and the bitter struggle that lies ahead.

Knowland, in his prepared announcement, avoided direct reference to union reforms. Under questioning, however, he spoke animatedly about the desirability of "voluntary unionism, a bill of rights for labor, and union democracy," and pledged himself to recommend legislation incorporating these objectives and to sign any "fair and equitable" bill that would achieve them.

• **Governor's Reaction**—The senator avoided, of course, any overt bid for the Presidency and in answer to questions managed not to slam the door on it. But Knight, armed with a copy of Knowland's statement from the Capitol press room, lost no time stamping it as "a hydra-headed bid for the Presidency of the United States." The governor promised that he will wage "no pantywaist campaign," and added:

"I hope a sense of . . . responsibility will make him [Knowland] more temperate and less belligerent than he has been in the past, and that he will think carefully before stirring passions and raising divisive issues that can do untold damage to peaceful business-labor relations in our state."

• **Knight's Labor Record**—For a clear-cut resolution of the union reform issue, Goodwin Knight is an ideal opponent. Perhaps more than any other Republican governor in recent memory, he has enjoyed the enthusiastic support of organized labor—and in a state where Democratic registrations outnumber Republican four to three.

In a speech a few weeks ago before the California Federation of Labor, he reviewed the contributions of his administration to the welfare of the workman—workmen's compensation benefits up 40% for temporary disability, 33% for permanent disability, 70% for death benefits; unemployment insurance benefits up from \$33 to \$40 a week; hospital benefits up from \$10 to \$12 a day; equal pay for equal work for women.

Without mentioning Knowland by name, he deplored the "belligerence of those who selected labor as their political target" and pledged that his party would not lend itself or its machinery to a "reckless campaign to destroy the union shop in California."

Knight wouldn't object to being struck by Presidential lightning himself, and he fiercely resents Knowland's intrusion, which, if successful, will make Knight a has-been. Accordingly he has hammered on the divisive effect of



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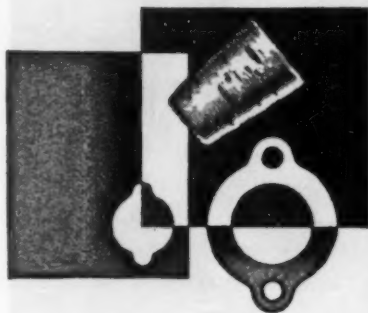
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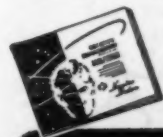
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Knowland's candidacy both on the party and on the economic classes of voters. To the union delegates he rumbled:

"No man with a reputation for belligerence, either in international affairs or domestic affairs, no matter how high-principled he may be, is a safe man for executive office in the federal government today—and he is equally unsafe to be entrusted with the governorship of California."

• **Nixon's Position**—The big imponderable in the Knight-Knowland scramble for the Sacramento springboard into the White House is their fellow-Californian and fellow Republican, Richard M. Nixon. The Vice-President has been aligned with Knowland against Knight but has been slow to voice support for the senator's present ambitions.

Nixon could be a serious stumbling block to either of the contestants when the 1960 convention rolls around, for presumably he has some ideas about who would make the best candidate.

• **Timing**—Normally Knight would not have launched his renomination campaign for the June 3 primary until midwinter. But Knowland, under necessity of returning to Washington to finish his senatorial term, left him no choice.

In spite of the expense and doubtful wisdom of cranking up a campaign too early, Knowland was governed in his timing by a tactical consideration. If it's true, as he believes, that union reform has become in recent weeks a vote-getting campaign issue, the sooner he can smoke out Knight the better. With Knight on the record now, the governor is committed to his pro-union shop position.

Knowland, of course, is committed too, and can be expected in the next three months to give shape to his ideas about voluntary unionism, a labor bill of rights, and union democracy. After that, except for the Lincoln day and Easter week recesses in Congress when Knowland plans to return to California, the campaign will be in the hands of his supporters.

• **Proposed Bill of Rights**—To a hometown audience in Oakland, Knowland ticked off the seven points that he considers desirable in a labor bill of rights. These were:

- (1) Union members should have the right to elect officers by secret ballot.
- (2) Union officers should be subject to recall by secret ballot of members.
- (3) No strike should be called except through secret ballot of union members.
- (4) Welfare funds of unions should be protected just as bank deposits and insurance reserves are protected.
- (5) Funds from initiation fees and dues should be controlled by majority vote of union members and must not

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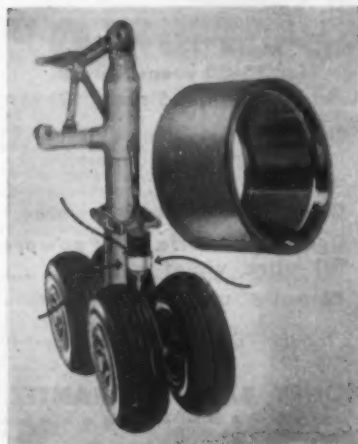
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(6) Union members should have the power to override the actions of union officials.

(7) National officers of unions should not be allowed to perpetuate themselves in office for long periods without legal and definite vote by the members.

In his kickoff press conference, though, Knowland gave the barest hint that he might use the Senate chamber as a sounding board for his gubernatorial aspirations. Union democracy and voluntary unionism, he said, are as necessary on the national as on the state level.

Various forms of right-to-work proposals have been advanced in California and fallen flat. A proposed constitutional amendment in 1944 was rejected at the polls—because, says Knowland,

too many voters were at war—and successive sessions of the legislature have rejected right-to-work bills.

In the past year, several municipal and county ordinances designed to abridge the union shop have been adopted (BW—Jun. 22 '57, p149) but have encountered rough going in the courts. The local measures bob up in remote, usually rural, counties distant from population and industrial centers. Last week, for example, the Yolo County supervisors at Woodland rejected a right-to-work proposal by the Farm Bureau Federation.

Although the local measures bear no sign of common parentage, certain similarities in wording and structure indicate that the authors at least use the same reference books.

The outcropping of local laws is, construed in some quarters as an ac-

ceptance of the futility of getting a statewide law passed. There is one body of opinion, however, that regards the grass-roots effort as a kind of overture to the big production number that Knowland is cranking up. Besides, notes one observer, it has the effect of keeping the labor people busy protecting their flanks.

So far, union challenge has either invalidated or nullified right-to-work laws in Palm Springs, the resort town in the desert, and in Tehama and San Benito Counties. And labor has mounted an offensive against a right-to-work ordinance adopted Aug. 18 in Trinity County.

Hence, it will be rewarding to keep an eye on California in the months ahead for a good clue to whether labor unionism will be a major issue in 1958—and 1960 as well.

## What Employers Can Expect From Hoffa

**The new Teamsters' boss favors areawide agreements, will use IBT's massive strength to get them. So the outlook is for harder bargaining, costlier contracts.**

Businessmen who deal with the International Brotherhood of Teamsters can find little that is encouraging in the results of the union's sweeping election of James R. Hoffa last week. Their outlook is for harder bargaining and costlier contracts.

Hoffa's victory has given him what has been his objective for many years: near complete domination of the nation's largest, perhaps most powerful union. It has made him, at 44, the man able to call the decisions for more than a million and a half unionists in one of the most important industries in the American economy (page 45).

• **Easy Victory**—The fact that Hoffa was able to defeat two clean-union candidates by a 3-to-1 margin is significant. Delegates voted on a basis of economics more than ethics. Many said frankly that they did not discount or accept the serious charges raised against Hoffa by Sen. John McClellan's Senate Select Committee and by the AFL-CIO. But, from veteran Teamsters' Secy.-Treas. John F. English on down, they backed Hoffa as a man "who can go out there and do a job."

• **What It Means**—To Hoffa, this job means:

• Leading "this organization to a position of respect and honor in the eyes of the rank and file of labor, in the eyes of the nation, and in the eyes of the world," making "this union . . . a model of trade unionism."

• Taking every step possible "to remain within the united labor movement," but without sacrificing Team-

ster autonomy or tolerating "the effort to interfere with our internal affairs."

• Continuing to press for "a program of wage gains and improved security never equaled in the history of organized labor."

It is extremely doubtful that Hoffa will get very far in restoring the Teamsters' prestige and reputation; both slumped to new lows on the election of the IBT's controversial Midwestern leader to succeed Dave Beck, effective next week.

• **Expulsion Conceded**—It is virtually certain that any steps Hoffa takes to keep the Teamsters in AFL-CIO—no matter how sincere—will be meaningless motions. Although close aides disagreed, Hoffa acknowledged privately on the eve of last week's election that his victory would lead, inevitably, to expulsion of the Teamsters from AFL-CIO.

Failing his first two objectives, Hoffa will place much more stress on his third: economic gains for the nation's truck drivers, warehousemen, and allied workers. There is no doubt whatever that he intends to fight hard in the next year to counteract the effects of public condemnation and expulsion from the united labor movement by new and far-reaching contract gains, new organizing advances, and—in time—important new labor alliances.

### I. Difficulties for IBT

This won't be easy.

For some time to come—Teamsters' attorneys cautiously estimate two years

—Hoffa and the IBT can expect to be embroiled with legal problems, involving Congress, the courts, and the National Labor Relations Board. They will be at war with AFL-CIO, and they may have to contend with internal conflict, too, since a number of important IBT locals are seriously considering withdrawal from the Teamsters if and when the union leaves AFL-CIO.

These conditions mean enmity, accusations, and harassments that will fortify hard-bargaining employers.

• **Some Fears**—Disappointed "clean union" forces in IBT say grimly that this will force a change "from a positive position to a shaky defensive one." And that it will "weaken our ability to negotiate better contracts and expand the area of welfare benefits for our members and their families."

Hoffa's answer to that is an unprintable word.

He points out that in the past five years "only workers in the bituminous coal industry and construction fields obtained hourly wage hikes greater than those gained by IBT." And, Hoffa added, the bargaining techniques that have "proved successful in recent years will be even more widely utilized, and backed up by organized strength—and, brother, we've got that."

### II. Bargaining in Strength

Hoffa is a strong advocate of the broadest possible base of bargaining. Under him, the Teamsters can be expected to go after new areawide, regional, or even national trucking contracts.

• **"Up to Jimmy"**—The Midwestern union leader left no doubt of this in Miami Beach last week. Convention proceedings—unlike those of the great





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majority of labor organizations—paid little attention to bread-and-butter matters. The usual resolutions outlining the union's economic and organizing program were completely ignored. The consensus was that such things are "up to Jimmy."

That's the way it has been in the Central States Conference formerly directed by Hoffa, and, more recently, in the Southern and Eastern States Conferences strongly influenced by Hoffa.

That's the way it will be in the Teamsters from now on. One delegate, watching the Hoffa victory celebration last week, commented dryly: "Now we're going to have a nationwide Central States Conference." He was probably right.

Each conference (the fourth is the Western Conference) is substantially autonomous—on paper, at least. But, to a far greater extent than in the past five years under Dave Beck, the president of IBT intends to "guide" the conferences. The directors, vice-presidents of the union, may not turn out to be "yes" men—but they easily could.

• **Mass Strength**—Hoffa's passion for arcawide agreements has its roots, he says, in his belief that the workers' best interests are safeguarded through organized, mass strength of all who work in the industry, in a locality, or area, or, he has said many times, nationally.

As Central States leader, Hoffa engineered a 23-state trucking contract in 1955, to provide uniform wages and contracts for freight drivers in the Central and Southern sections of the country. It was not his first; other broad-based contracts date back to Hoffa's early days in IBT, in the 1930s and early 1940s. And the area agreement was preceded by a series of state pacts.

What Hoffa has to say about the 23-state agreement has significance for employers. It could be the handwriting on the wall. Says Hoffa: "For three years we very carefully laid the groundwork, working out problems of putting together that complicated negotiation. In drafting that contract, we took recognition of all the provisions of the current existing contracts, and finally drafted two master proposals—one a city cartage contract covering 12 states, the other a road contract covering 24 states."

• **Detailed Planning**—The careful planning was furthered by "contacting employers, and by many thousands of miles being traveled by experienced people, analyzing local situations and finding out the connecting carriers, in case of strike. No details were overlooked. Hundreds of hours were put into this, on both investigation and research."

The original pact has been followed by a pension agreement for the drivers in the 23-state area that costs each employer \$2 a week per employee. Addi-

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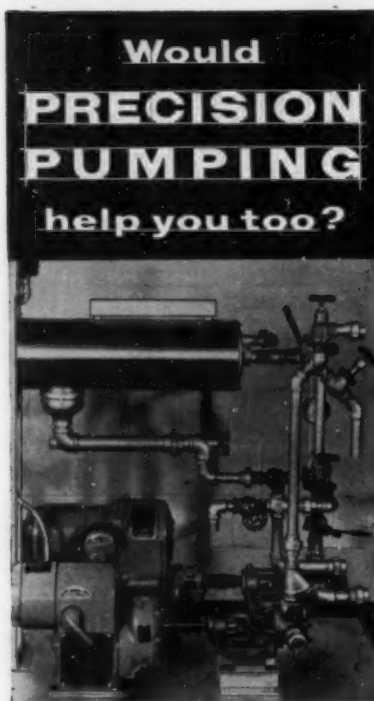
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tionally, 90% of the drivers in the area have been brought under one of two broad-based health and welfare funds.

Hoffa's plans call for other pacts similar to these, companywide agreements, or trade division contracts to be negotiated nationally.

Hoffa's "brain trusters," including Harold J. Gibbons, new vice-president from St. Louis, slated to be his executive assistant, are at work on plans now.

• **Top-Level Negotiations**—The union's international representatives aren't altogether happy at this prospect. As one put it last week, "It makes errand boys out of us." Here's why:

Hoffa does the top-level negotiating instead of the international representatives who operate on a company-by-company, local basis. Moreover, Hoffa sits in on quarterly, areawide grievance-settling meetings that handle all disputes that go beyond the first, knotty level. And, he insists that he's always available, by telephone or otherwise, to help administer any contract on the local level.

• **The New Strategy**—Chances are Hoffa will continue this policy that makes every agreement a Hoffa contract. These other plans of the new IBT head should be important to employers:

• A "teamwork" approach that means being ready to strike an entire company over an entire territory if any one local union has trouble. It also means being ready, if necessary, to throw the full financing resources of every local union behind the smallest local if it gets into a knockdown, drag-out fight.

• A step-up in Teamsters' activities in New York City to put more pressure on organizing in the South. Since New York is an important terminus for Southern over-the-road trucking companies, concerted refusal to handle their trucks in New York could force them into union-contract ranks.

• **Insistence on a "sensible" strike policy.** While Hoffa says he is not "opposed to strikes" or "afraid of strikes," he believes walkouts should be resorted to only for "a good, legitimate reason" and only if workers are convinced they can win. Hoffa says, "I am not for strikes that can't be won without sacrificing more than you gain by having the strike."

• **Strike Tactics**—He also believes that strikes should be hardhitting and short; unless workers "make the [employers] feel the effect . . . immediately . . . after it goes on a week or two, the company then takes the position that they don't care how long the strike goes on, they will outlast it."

And, Hoffa says he intends to insist that unionists "live scrupulously by the contract once it is agreed upon." **END**



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# In Labor

• • •

## Canadian Catholic Union Federation Makes Overtures to Labor Congress

By a narrow margin of 15 votes, the Canadian Catholic Confederation of Labor convention on Sept. 29 authorized its executive committee to seek affiliation with the Canadian Labor Congress.

Old antagonisms of certain CCCL affiliates against AFL-CIO unions in the Labor Congress (BW—Jun. 8 '57, p151), and, to a lesser extent, French Canadian provincialism and religious differences, caused the unexpectedly large opposition to the affiliation proposal.

The CCCL, which operates wholly in the province of Quebec, agreed to abide by the constitution and policies of the Labor Congress, to change its name and amend its constitution to guarantee against discrimination on religious, racial, or language grounds. The Congress, in turn, is expected to appoint another vice-president representing Quebec, guarantee translators and a bilingual information organization.

One stumbling bloc still remains. In passing the affiliation resolution, the CCCL convention removed a clause calling for the end of its connection with the International Confederation of Christian Trade Unions. The resolution as passed leaves the question up in the air. Labor Congress officials, including Pres. Claude Jodoin, a French Canadian and Catholic, have made it clear publicly in the past that the CLC will not accept the predominantly Catholic Confederation if it insists on maintaining formal ties with the Christian Trade Unions International. The Labor Congress, like AFL-CIO, is affiliated with the International Confederation of Free Trade Unions.

While the next move is up to the Congress, it is not likely that unsettled problems between the two Canadian labor groups will impede affiliation. One Congress official says: "There were lots of points of difference when the AFL and CIO unions in Canada came together in May, 1956. And, we still haven't thrashed all of them out yet."

• • •

## Unfair Labor Practice Charges Predominate On NLRB's Four-Year-Record Agenda

The National Labor Relations Board case load for the second quarter of 1957 set a four-year record, according to the Commerce Clearing House.

The April-June total of 3,750 cases filed outnumbered those of any three-month period since July-September, 1953, when 3,777 cases were filed, CCH reports.

A study of the NLRB second-quarter report shows that unfair labor practice charges filed against employers and unions accounted for nearly one-half of the cases. Of the 1,606 unfair labor practice cases, 1,049 were filed against employers, while 557 were filed against unions.

Some 40 elections were held on petitions for decer-

tification; 26 resulted in decertification of the union and 14 were won by the union. In 1,364 collective bargaining elections, 107,469 employees were eligible to vote and 91% cast valid ballots. Of these, 59% were cast in favor of collective bargaining representation.

• • •

## Boycott at Burt—On or Off?

### Unions Say Yes; Company, No

The boycott of Burt Mfg. Co. by the Sheet Metal Workers International Assn. is still a matter of dispute. Robert Byron, Sheet Metal Workers president, has reassured AFL-CIO Pres. George Meany he would stick by the commitment to end the boycott that he made at the Chicago meeting of the AFL-CIO Executive Board (BW—Aug. 25 '57, p141). But company officials say the word hasn't gone down the line to the local unions. As far as the company is concerned, the boycott still exists.

Meany reported on his discussions with Byron in a letter to David J. McDonald, president of the United Steelworkers. The USW has a collective bargaining agreement with Burt, and the Sheet Metal Workers have been boycotting Burt products as a result. Meany sent a copy of the letter to Burt officials.

"I must assume until I receive a notice to the contrary," Meany told McDonald, "that Byron will uphold the commitment made to me in Chicago. If you have instances where (1) the representatives of the Sheet Metal Workers, since the Chicago meeting, have attempted to prevent the use of Burt equipment, or (2) any instance where Sheet Metal Workers are holding up any job by refusing to install Burt equipment, I would appreciate it if you would so advise me."

• • •

## Santa Fe and Non-Operating Unions Lock Horns on Two Major Issues

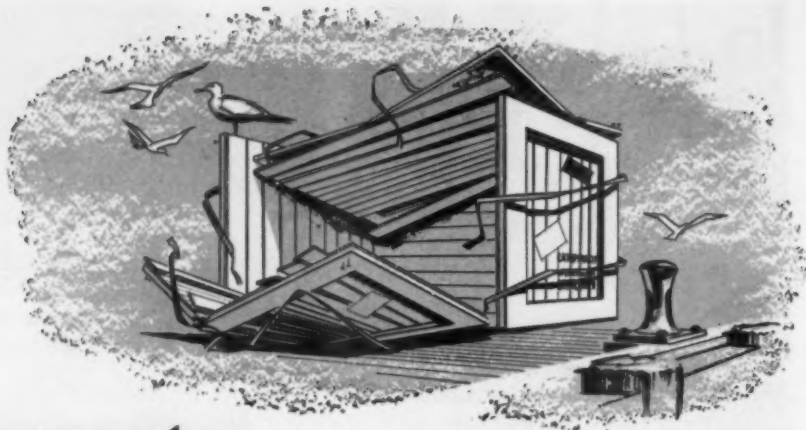
The Santa Fe Ry. is currently in a hassle with 15 non-operating railway unions over the union shop and a checkoff agreement. The unions are polling Santa Fe non-operating employees for a strike authorization to back up their demands. Santa Fe, say the unions, "has flatly refused to make any kind of workable union shop agreement."

The railroad has said in negotiations that it would accept the union shop and checkoff in effect on other railroads if the unions would accept the principle that dues, initiation fees, or assessments "will not be used for the support of a political candidate, party, or committee, or for the advancement of political ideologies."

Santa Fe charged this week that the voting procedure followed by the non-operating railway unions "makes it virtually impossible to get a true expression from those employees whether they want to strike for a compulsory union membership contract."

Voting is not secret, says the railroad. Each employee is required to sign his name and address on the ballot, state his job and union affiliation. The dispute is currently in the hands of the National Mediation Board.





## The crate that cost more than the freight

They quoted the rate but forgot to mention the crate. The sea rate for shipping engine-testing equipment to Paris was \$666.40. Oddly enough, the added cost of the complex crate and packing was \$1132.02. And that was only one of the "hidden costs" that showed up later.

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## THE MARKETS

### Wall St. Talks . . .

. . . about slumping British stocks, the steel outlook . . . Central's stock . . . New York bank merger denied.

Wall Street is not the only place where stocks are slumping. British investors and traders are having their troubles, too. The Financial Times' index of common stocks has fallen 16% from its 1957 high of 207.6 on July 9; it now stands 22% below the record high set on July 21, 1955.

The steel outlook is one of Wall Street's big worries. Lukens Steel, one-time darling of investors (BW-Apr. 13'57,p154), skidded 10 points on Monday on the news that it had made a sharp cut in its above-average price for carbon steel plate. The drop took the stock to around \$65.25 a share, nearly 47% below the 1957 high of \$122.62.

New York Central stock is just about where it started when the Robert R. Young interests won their proxy fight to oust the old administration in mid-June of 1954. This week Central was traded around \$22.75 a share, compared with \$23 when the battle ended. In between it had zoomed to \$49.50.

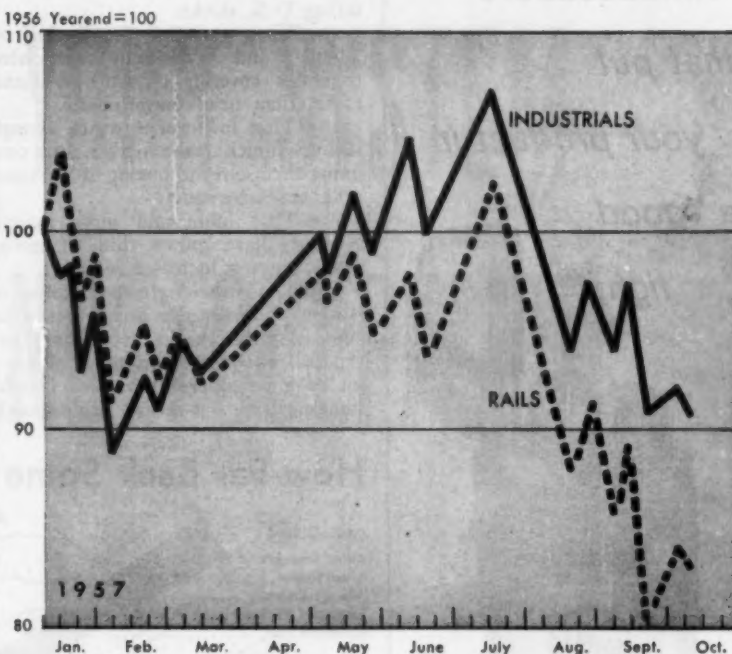
Price earnings ratios vary widely within most groups. In the food field, the ratios now run from a low of 9.9 for First National Stores to a high of around 18.8 for Grand Union.

Persistent rumors in the Street of an impending merger between Guaranty Trust Co. and Manufacturers Trust Co. were denied by both institutions. In declaring that the report had no basis, Manufacturers Trust added that it would deny the story if it were true.

Only 123 issues of the 1,058 listed on the Big Board rose during the third quarter, according to the New York Stock Exchange; 942 issues fell in price; while 20 were unchanged. Losses of over 20% were chalked up by 173 issues, while only seven gained more than 20%.

Oil earnings for 1957 won't come up to first half expectations, Streeters say. Gulf Oil Corp., for example, expects profits for the year to show a gain well under the increase of 25% registered in the first half over the year ago period.

### 1957's Strength . . . and Weakness



Data: Standard & Poor's Daily Stock Price Indexes.

## Call It a Sputnik Market

Russia's satellite success produced a brief Big Board flurry, then one of the worst fades of late, finally another flurry.

SO FAR, investors and traders have had an exceedingly mixed, and even confused, reaction to the news that Russia had beaten the U.S. to the punch in launching the first earth satellite (page 39). Generally, it's too early to figure out the ultimate configuration of what Wall Street wags are calling the Sputnik market.

On Monday, Big Board trading at the start was dominated quite naturally by common stocks that had even the most remote connection with missiles, rocket fuels, and assorted airborne defense gimmicks. Plenty of such issues were showing gains ranging from \$2 to \$4 very soon after the opening.

**• Quick Shift**—But the early-in-the-day missile party didn't last long. Selling orders involving non-missile issues soon began to flood in on a rising tide. Prices started to fade all through the list. All through the day, prices generally continued to taper down.

By the close of trading, the first end product of the Russian news was the

Big Board's eighth Monday drop in a row, and one of the weakest days in the discouraging series of Blue Mondays.

When trading closed, 70% of all the issues that changed hands during the day had recorded losses, while only 15% had gained.

Tuesday, on balance, was another losing day, with 803 issues down and only 184 up. Spates of selling were so heavy that at one point the ticker was running five minutes late. However, the down flurries were interspersed with bursts of buying that enabled a good many shares to recover a large part of their earlier losses.

**• Courage Grows**—On Wednesday, investors and traders picked up still more courage. To be sure, buyers were not rushing after stocks with avid clamor. But by the close, a majority of the issues traded had climbed at least a modest distance above their Tuesday closings. And, although profit-taking operations were visible now and then, there was a total absence all day of the sort of selling pressure that had been felt on the first two days of the week.

Still, it was evident by the midweek closing that few bulls felt that they were entirely out of the woods. As prices firmed up on Wednesday, volume began to fall off sharply, just as it has so

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frequently in other recent rallies, and is not a good technical sign.

Further uneasiness was caused by a series of midweek reports:

- That smart Europeans were still selling U. S. stocks.

- That much of the buying on Tuesday and Wednesday represented profitable covering of short positions, rather than new commitments.

- That investment trusts, though still very much in the market, were confining themselves to buying utilities and other defensive issues.

- That more and more margin accounts have grown thin in recent weeks, causing increased selling.

- **Fading Values**—A growing number of market observers also urged that it be kept in mind that a great many inexperienced investors are now holding a lot of good stocks that were bought sometime ago at prices considerably

higher than those prevailing now (table below). As one observer put it, "Recent market events have been getting their wind up, and if we have any more price performances like those of Monday and Tuesday they're likely to really start dumping stocks."

- **Bright Side**—There are those, however, who still see a bright outlook. Here, for example, is what one market adviser told his clients:

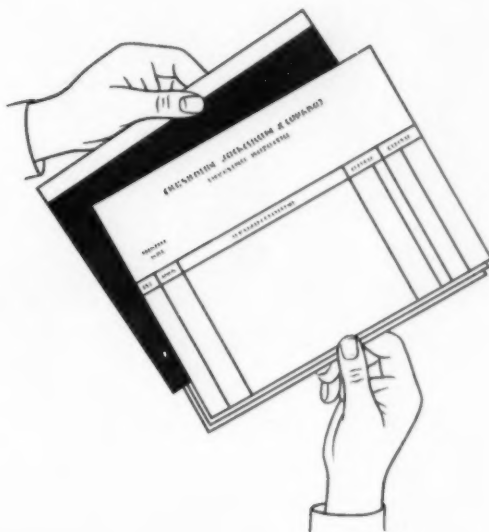
"Despite some disturbing implications of the Russian earth satellite, we expect that its impact on the stock market will be bullish. . . . Undoubtedly, the news will create great pressure for a reversal of present national defense policies, which have gone too far in the direction of economy. As these economies appear to have influenced general business somewhat, the market response may not be confined to aviation and allied issues."

## How Far Back Some Highs Date

Common Stock	Bull Market High	When High Was Registered	Recent Level	Recent Level vs. High
Allied Chemical & Dye.....	\$129.25	April 1956	\$75.50	-41.6%
Allied Stores.....	63.75	1955	43.50	-31.8
Allis-Chalmers.....	41.75	1954	28.00	-32.9
American Radiator.....	27.37	1955	12.62	-53.9
American Zinc.....	24.25	1955	13.00	-46.4
Anaconda Co.....	87.75	March 1956	49.50	-43.6
Boeing Airplane.....	65.37	Dec. 1956	33.87	-48.2
Campbell Soup.....	44.62	1955	34.75	-22.1
Champion Paper.....	45.00	August 1956	34.25	-23.9
Chrysler Corp.....	101.50	1955	72.25	-28.8
Cincinnati Milling Machinery.....	55.25	July 1956	35.00	-36.7
C. I. T. Financial Corp.....	50.37	1955	43.25	-14.1
Douglas Aircraft.....	95.12	Sept. 1956	59.50	-37.4
Dow Chemical.....	82.87	July 1956	51.62	-37.7
E. I. du Pont de Nemours.....	249.75	1955	176.00	-29.5
Ford Motor.....	70.00	January 1956	49.50	-29.3
General Motors.....	54.00	1955	39.87	-26.2
B. F. Goodrich.....	89.25	March 1956	63.50	-28.9
International Harvester.....	41.62	July 1956	32.12	-22.8
International Paper.....	144.50	May 1956	88.12	-39.0
Johns-Manville.....	58.75	April 1956	41.62	-29.2
Kennecott Copper.....	147.75	March 1956	90.37	-38.8
Kimberly-Clark.....	58.37	April 1956	44.12	-24.4
M. Lowenstein & Co.....	31.75	1955	14.75	-53.5
Marquette Cement.....	40.25	July 1956	28.25	-29.8
Merritt-Chapman & Scott.....	28.37	1954	16.25	-42.7
Minnesota & Ontario Paper.....	42.25	April 1956	25.00	-40.9
Monsanto Chemical.....	52.62	1955	32.25	-38.7
National Biscuit.....	45.87	1954	39.37	-14.2
National Dairy Products.....	44.75	1954	37.12	-17.1
National Gypsum.....	61.87	April 1956	40.25	-34.9
Penn-Dixie Cement.....	43.62	July 1956	24.00	-45.0
J. C. Penney Co.....	106.25	1955	75.50	-29.0
Pullman Co.....	74.75	1955	54.50	-27.0
Radio Corp.....	55.37	1955	30.75	-44.5
Rayonier, Inc.....	44.87	August 1956	18.50	-58.8
St. Joseph Lead.....	55.00	1955	25.87	-53.0
Sears, Roebuck.....	40.87	1955	27.00	-33.9
Standard Oil (Ind.).....	65.00	August 1956	43.00	-33.8
J. P. Stevens & Co.....	49.37	1951	19.62	-60.3
Swift & Co.....	52.50	1955	30.12	-42.6
Texas Gulf Sulphur.....	44.87	1955	20.00	-55.4
TKL Oil.....	35.25	June 1956	16.62	-52.9
Union Carbide.....	133.37	July 1956	105.12	-21.2
United Aircraft.....	96.50	Dec. 1956	60.00	-37.8
U. S. Gypsum.....	77.00	August 1956	62.75	-18.5
U. S. Plywood.....	51.87	July 1956	30.00	-42.2
U. S. Rubber.....	60.87	March 1956	38.50	-36.8
Westinghouse Electric.....	83.25	1955	58.12	-30.2
F. W. Woolworth.....	54.75	1954	41.00	-25.1

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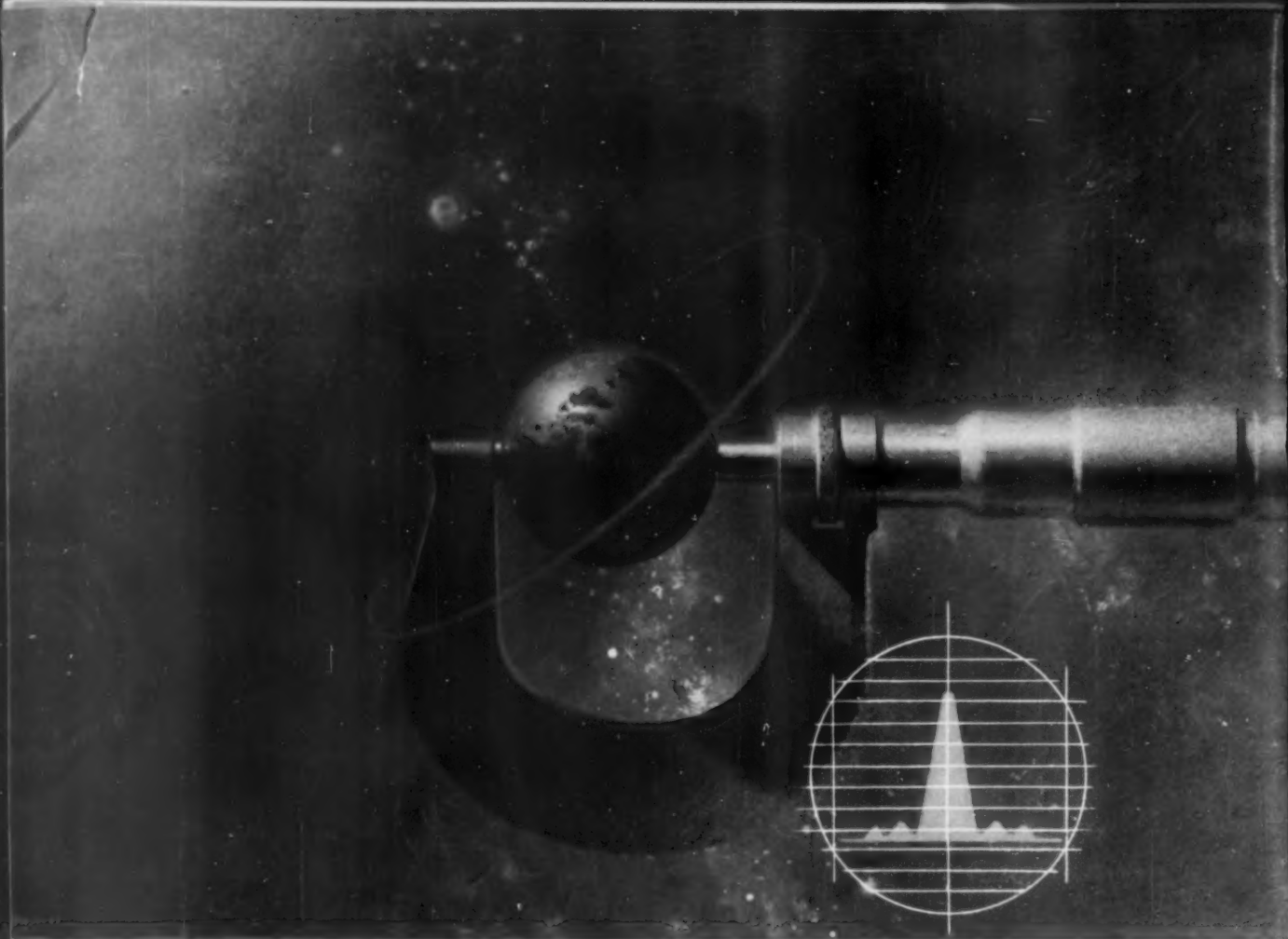
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# PERSONAL BUSINESS

BUSINESS WEEK

OCT. 12, 1957



## How well do you perform on television?

With the fall and winter public-speaking season at hand—and closed-circuit TV coming into greater use—you may want to review some basic “rules” for camera appearances, and look over the newer gadgets that can help you to be more effective.

**There's one cardinal rule to keep in mind when you approach a television camera:** Don't start with the idea of trying to “sell” yourself and what you have to say by using a whole package of carefully rehearsed speaking and performing techniques. An artificial “performance” is a sure road to a low rating—whether you're trying to reach company employees via closed-circuit TV, or a nationwide network audience.

**Before the cameras, first and last, be yourself**—and above all, avoid the mistake that surprisingly enough has tripped up a number of well-meaning business executives: trying to imitate the style of some well known radio or TV personality.

**The most common error of the admitted amateur is overstrain**—in speech, facial expression, and gestures. The trick is to relax, not to be too serious in manner (or at least, not too severe), and to maintain a natural attitude without hamming it up.

It's helpful to imagine, when you practice your reading, that you're talking informally to a small group of people in your office or home—rather than to visualize a great mass of viewers clustered before their TV sets. **You'll wind up with a more natural presentation**, and less chance of “mike fright.” Incidentally, “mike fright” is overrated—the great majority of speakers (even rank amateurs) manage to shake it off quickly.

**Treat the camera as you would a person sitting a few feet away**, varying your tone of voice and your glance as you would in normal conversation. There's no need to look constantly at the TV camera's lens—even when a teleprompter is fitted directly in front of the lens for quick and easy speech-reading.

**If you read your speech from script, don't try to create the impression that you've memorized it.** This produces strain and unnaturalness. Besides, it's considered poor TV technique to appear to be hiding the script. One good way to avoid script-fidgets is to time the speech carefully beforehand, with the timing marked in the margin, then have a pocket watch in front of you to keep your pace fairly even.

**Use gestures sparingly before TV cameras**—and subtle gestures, not broad sweeps. If you're on a panel show, sitting at a table, avoid arm-waving in front of your face. And when you make a comment, address it to a particular panel member by name, instead of making general comments.

**There's one point on preparation of TV talks that applies particularly to non-professionals:** Don't assume technical knowledge or specialized interest on the part of your audience. Omit “verbal shorthand” known only to specialists. Forgetting this obvious rule has dulled many a speech.

**As to dress, your best bets are suits in moderate shades of gray**—in solid tones—and dark ties. White shirts make the face appear too dark, so wear either pale blue or tan.

**Pastel blue shows up as white.**

**Make-up is usually needed, depending on the lighting and your particular facial structure.** Don't feel squeamish about it—some of America's leading executives have used it. **Men whose beards tend to be heavy look seedy**

# PERSONAL BUSINESS (Continued)

BUSINESS WEEK  
OCT. 12, 1957

without make-up, even though they are clean-shaven. Pancake type—applied wet and allowed to dry—is usually used.

Don't scorn the help of gadgets—or be afraid of getting tangled up in mechanical aids.

Prompting devices are becoming almost a “must” these days—you'll find them of great assistance. Your speech—typed on a paper roll in bold half-inch letters—is flashed on glass screens fixed at your eye level. From the audience, the screens appear perfectly transparent. But you can easily read the slow-moving “piano roll.” You can follow any pace you choose—even depart from your prepared text if you wish—because the device is paced by an off-stage operator who follows both you and your script, line by line.

Side notes and underlining can be included on the paper roll, to give you special cues in your talk.

There are usually two glass screens about four feet in front of you, one on either side of the rostrum, and sometimes one inside the lectern itself. This gives you complete freedom to move about and “talk” to the audience. You eliminate that awkward head-bobbing (down to script and up again)—the hallmark of the non-professional speaker.

Teamed up with the prompter is “telemation”—another electronic aid that can give you more leeway and comfort. It's particularly suited to closed-circuit TV meetings where you use movies, slides, sound effects, and so on. All these side effects are tied in electronically with your speech; certain cue words on the prompting device automatically activate this equipment.

—●—

You can probably expect an increase in Blue Cross insurance premiums next year—especially if the program you're in hasn't had one in the past three years or so. Most increases are expected to be in the 25% range, although one Blue Cross group (the New York State organization) is asking 40%—their first jump since 1951.

—●—

When the time comes for filling out tax returns next year, you'll find a couple of changes on Form 1040:

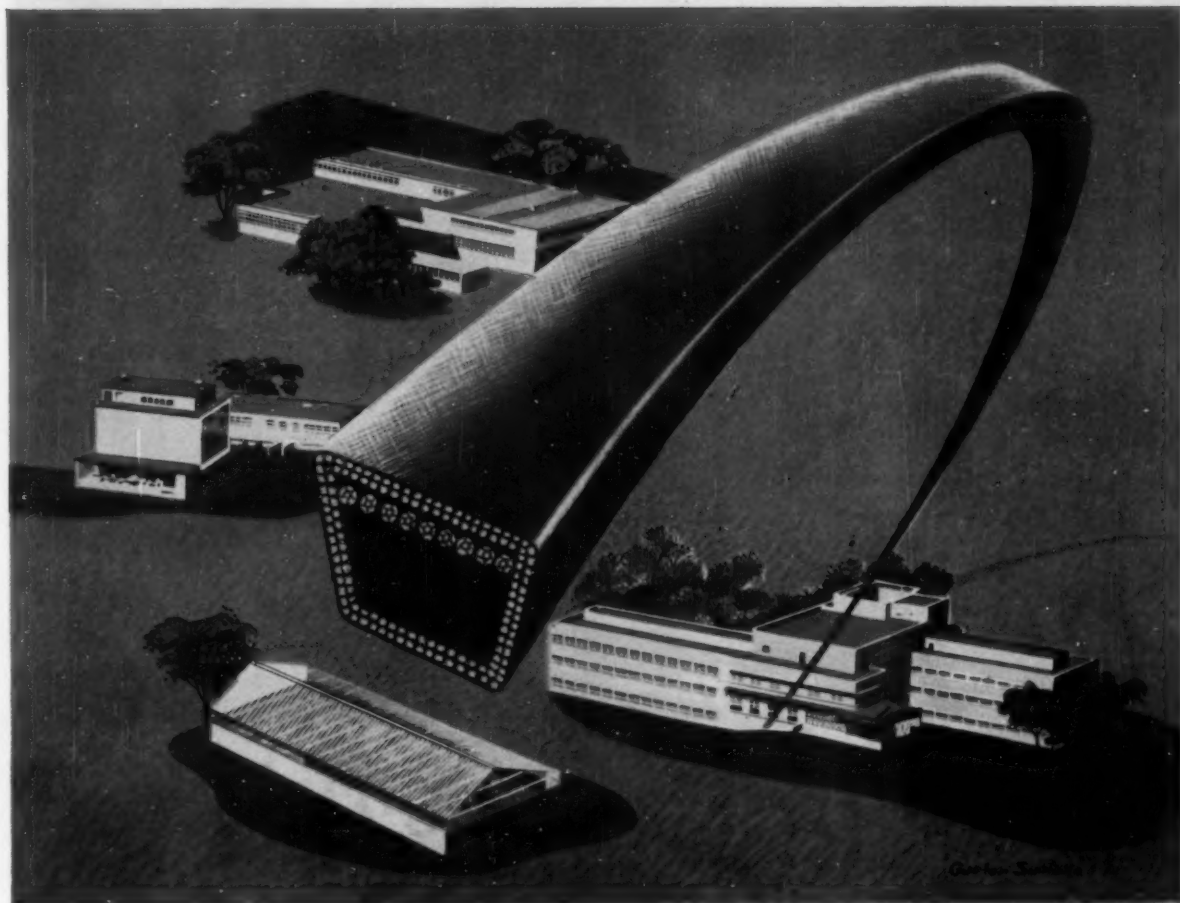
- There'll be additional space for “travel, reimbursed expenses, etc.” This calls for itemizing expenses in greater detail, and discourages showing only all-inclusive figures.
- The “income from dividends” section (Schedule A) will require that a married taxpayer indicate whether stock was held by the wife, husband, or both jointly. It's mainly a reminder that you're entitled to a dividend exclusion up to \$50 on stock held by each individual.

—●—

**Foods in the news:** Higher egg prices can be partly blamed on heavy production of vaccine for Asian flu, says the head of a large Southern poultry firm. . . . Football fans are apt to find hot baked potatoes wrapped in aluminum foil awaiting them in the cold cold stands late this fall—with butter and fork inside. . . . Now the executive chef who has everything can get an electric can opener, wall mounted, for \$30; from Klassen Enterprises, Hayward, California. . . . New popular salad in the U. S. Senate dining room is a toss-up of lobster meat, lettuce, tomatoes, water cress, diced celery, chopped green onions, sliced olives, avocado, and grapefruit.



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LOUISVILLE IS HAVING SOME . . .

## Second Thoughts on New Plants

The question isn't whether new industries are worth having, but whether they've come too fast for the city to digest.

At a time when most cities are fighting tooth and nail for new industry, Louisville, Ky., is having second thoughts about the big new plants that, since 1950, have brought in 100,000 people, 34,000 new factory jobs, and \$1-billion in capital investment.

In recent months, the city has begun to have qualms over the gentle rise in unemployment, the expansion of relief rolls, the slump in housing, the decline of downtown, and the lack of new industries.

Last month, two pieces of news stimulated the uneasiness: General Electric Co. announced new layoffs at its Appliance Park, bringing employment down to 10,500 from the 16,000 of 18 months ago; and Reynolds Metals Co. disclosed it would not put up a new building in Louisville, instead would move its national sales offices with 750 managerial employees to Richmond, Va.

Some of the consequences of Louisville's industrialization have been vivid,

others more subtle. But in the next few weeks, as the municipal election campaign warms up, the general business condition will be subjected to public debate.

- **Familiar Ring**—The line of thinking that the situation has evoked may have a familiar ring in communities elsewhere. Some of the things that bother Louisville businessmen are:

- By locating outside the city limits, the new factories are draining residential and commercial development away from the city, thereby sapping downtown business.

- Relations between the city and suburbs are strained by the competition for the tax base, and suburban residents are encouraged to resist annexation by Louisville.

- Industrial expansion has attracted low-income groups, whose encirclement of the downtown area jeopardizes its vitality, and whose buying habits threaten to change the character of downtown retailing.

- While Louisville was getting new industrial employers, it was losing others—in effect, merely switching employers—possibly because of the thinness of the labor supply.

The question bothering Louisville leaders is not whether new industries are worth having but, rather, whether they have come too rapidly for Louisville to digest.

### I. Pinch on Business

The trend toward large one-story structures with provision for future expansion is a national one, and frequently demands acreage that is available only outside a central city's limits.

When GE wanted 1,000 acres for Appliance Park, it had to go outside Louisville. It was the same story with du Pont, B. F. Goodrich Co., National Carbide Co., and Ford Motor Co.—all of which have located or expanded in the Louisville area in recent years.

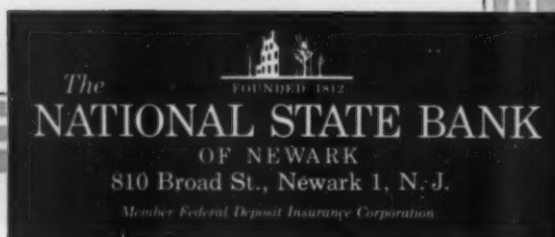
As a result, fewer than 50% of the metropolitan area's factory workers are employed in the city; in 1940, it was 78%.

To find houses, the suburban fac-

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174 Regions

"... the downtown area loses support it could get from white collarites ..."

STORY starts on p. 173

tory workers no longer need to go to the city. Subdivisions have been springing up near the plants, and shopping centers have been developed along with the homes.

In GE's case, fewer than 50% of Appliance Park workers live within Louisville's city limits, and the work force moves closer to the plant each year. One-third of them commute daily from rural counties of Kentucky and Indiana.

Not only are the blue collar workers without incentive to come into the city, but also the tendency is to integrate office space into the plants. Thus, often the downtown area loses the support it could get from white collarites.

• **Vacant Offices**—By maintaining office jobs at plants outside the city, manufacturers deprive a central business district of likely tenants for office buildings. As local companies are bought by outside firms and central management functions are moved, say, to New York City, you have even fewer prospects for downtown employment in a city like Louisville.

Merle Robertson, president of Liberty National Bank & Trust Co., Louisville's second largest bank, announced last year it would build a new main office that would include several floors of office space for rent. In March, the bank changed its plans, decided to build only for itself.

"We gave up the idea," Robertson says. "We couldn't find enough good corporation tenants of stature that were interested. Very few concerns have their headquarters here and there are many sellouts by companies that are here. People aren't proud of having offices in a good location or a new building. They will go anywhere the rent is lowest."

The vacancy rate in the four largest existing buildings is said to be running around 2%—quite tight—but the new 22-story Commonwealth Building concedes its rate has been running higher.

The manner in which the workers have taken to shopping centers during the past year shows up in department store sales' lag behind a year ago.

## II. City vs. Suburbs

Louisville city fathers are chagrined that the new industries are causing the city a number of headaches without sufficient compensation.

First, they note that plants and workers are not subject to the city's

BUSINESS WEEK • Oct. 12, 1957

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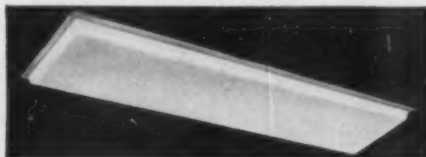
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"... industries have encouraged suburbs to resist annexation . . ."

STORY starts on p. 173

property, profits, and earnings taxes while at the same time the city must provide the plants with a number of services.

They point, then, to the \$16-million Henry Watterson Expressway, designed to handle traffic generated by GE's Appliance Park, which bypasses the city.

The objection is not that the expressway doesn't take into the city people who don't want to go there, but that the expressway deprives the city of other traffic improvements that, they contend, would benefit it more directly. The reason is that by allotting a certain sum for the expressway, the state is politically incapable of putting that much more into the Louisville area, and the city isn't financially able to take care of its own expressway needs.

• **Strained Relations**—Others cite the Metropolitan Sewer District, in theory a project of city and county but in practice controlled and virtually entirely supported by the city. The district spent \$3.6-million on two trunk lines to Appliance Park. That may not be a lot of money, but it is equal to the district's average capital outlay in the whole metropolitan area for 18 months.

No one holds that GE won't help pay for the costs of the lines, but the lines—laid at a time when some parts of Louisville proper need sewers—deprive the city of bargaining power with suburbs it wants to annex. The suburbanites stipulate that the city must provide them sewers before they will go along with annexation, but by tying up funds in sewers to GE, the city hasn't money to lay sewers for bargaining.

Relations between city and suburbs are fairly strained. The city would like to annex them, but the suburbs are resisting increasingly—with industry's help.

In addition to the matter of sewers, industries have in effect encouraged suburbs to resist annexation by the mere addition of their plants to the suburbs' tax rolls. The plants make the suburbs more self-reliant. GE acknowledges that it and other industries have so encouraged suburbs to be independent.

Backed by GE, the Kentucky legislature last year passed a law forbidding annexation of industrial plants unless (1) the owners consent, or (2) the plant is annexed as part of an area that con-



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tains at least half as many property owners as the plant employees.

GE favored the bill to avoid "corridor annexation"—wherein a city annexes only a strip on which a plant is situated. It says it wants to become part of Louisville whenever the city expands that far out.

### III. Slums in the Making

With the growth of industry in Louisville during and since the war has come an influx of Negroes and low-income whites from small towns and farms of Kentucky and nearby states.

In concentrating around downtown—the Negroes on the inside of the circle, the poor whites around them—they pose problems of great magnitude.

Sociologists at the University of Kentucky find that even though the rural whites better their income status, they tend to cluster in low-income residential areas.

Being unskilled, these people usually are the first to be laid off. Instead of returning to towns or farms that they had left, they stay in Louisville and go on relief.

Their presence in the city has added considerably to the welfare, health, and police burden.

Former Mayor Charles P. Farnsley visualizes both bands—Negroes on the heels of whites—expanding outward as their groups merge and reducing property values in concentric circles around downtown by the tune of \$500-million.

• **Retailers Suffer**—The impact on downtown retailing already is beginning to tell.

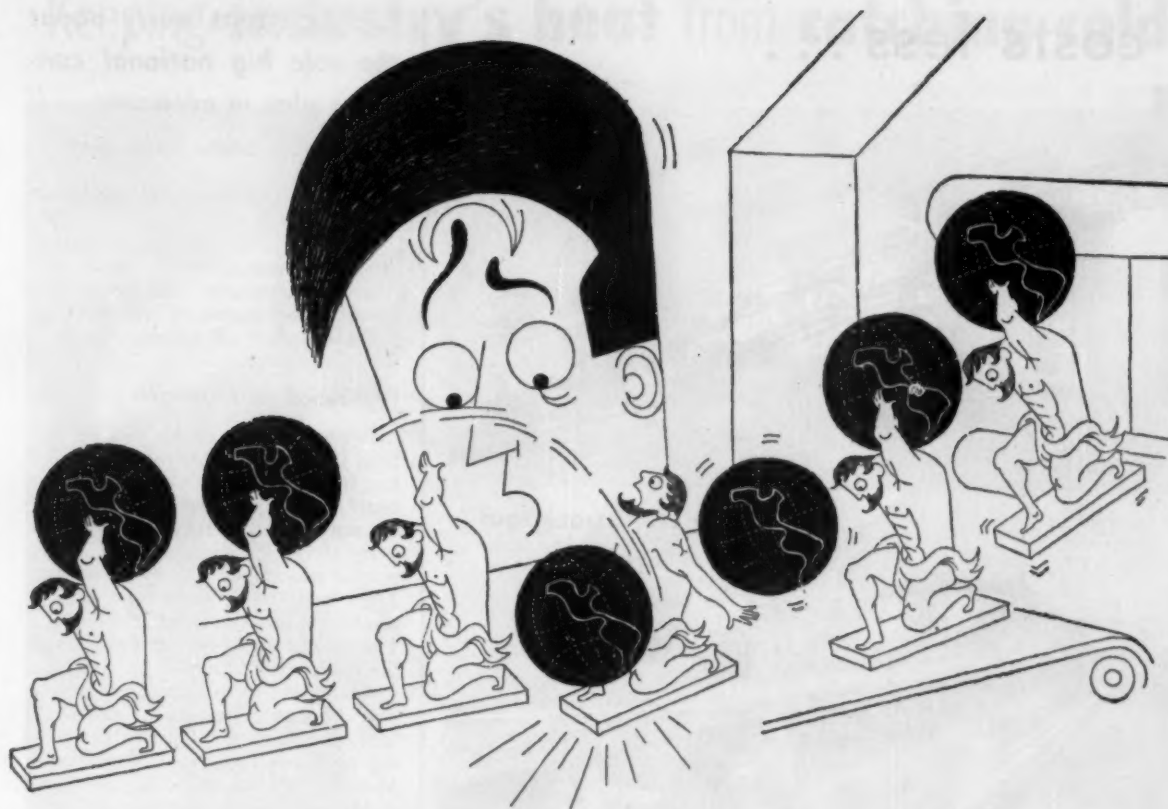
There is a preponderance of small, low-grade retail outlets that cater to this trade. Living near the downtown area, the Negroes and poor whites make downtown their shopping center.

A 2% decline in Louisville clothing sales from 1948 to 1954, at a time when national clothing sales were up 14%, is attributed to the increase of these low-income groups in the community, since it is accepted that low-income groups tend to spend a smaller part of income on clothing.

• **Rescue Plans**—Some efforts are being made to rescue the central area from encroaching blights, including a proposed \$5-million bond issue for slum clearance on which a vote will be held in November.

Money from the bonds would expand the Medical Center on the eastern fringe of the district as well as clear slums on the western ridge and help to build a civic center.

Farnsley also has suggested that old mansions on streets going south to the University of Louisville—homes that have fallen into disrepair and are being used as rooming houses for migrant workers—be bought by the city or uni-



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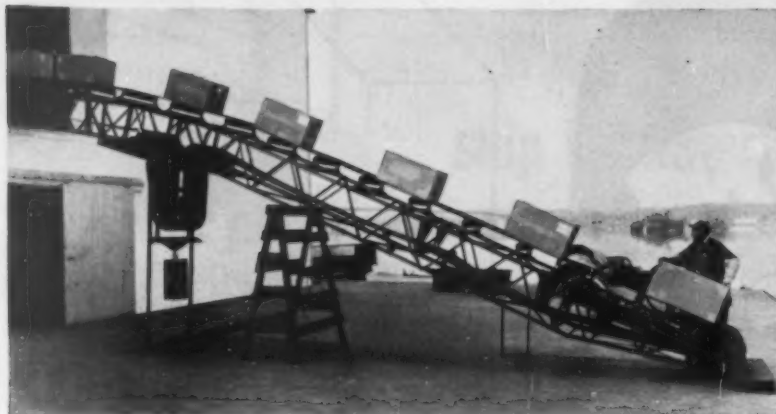
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180 Regions

**"... citizens worry about the role big national concerns play in economy ..."**

STORY starts on p. 173

versity for dormitories and apartments for students.

Other ideas include the integration of slum clearance with a north-south expressway under way, and the purchase by the school system of areas for playgrounds around old schools.

### IV. Hard to Measure

It goes without saying that the millions in payrolls added to the area and the high levels of employment have benefited the city, but the exact gains are not simple to measure.

In 1955, for example, the metropolitan area gained 17 new plants with 2,699 new factory jobs—but lost 10 plants that had employed 2,266 people. The picture has been similar through the years, one of gains as well as losses.

Among the losses during recent years were Morton Packing Co., moving to St. Louis; American Tobacco Co. moving to Owensboro, Ky.; Minneapolis-Moline Co. consolidating operations in Moline, Ill.; and Mengel Co. building a new plant in Lexington, Ky. Other companies simply have gone out of business.

• **Poser**—If there has been a trend of losing many smaller firms and compensating for losses by getting a few big ones employing thousands, some men in Louisville wonder whether this is for the best.

Should Louisville, they ask, be so dependent on GE's Appliance Park?

GE has been laying off people since early last year. Of the 6,000 dropped from the payroll during that time, about 1,800 quit and were not replaced.

But GE does not expect the slump in appliances to be permanent. It is confident that its business will be doubled by the mid-sixties, and that Appliance Park employment may double to 20,000.

• **Labor Upsets**—Nevertheless, Louisville citizens are inclined to worry about the increasing role that the big national concerns play in the local economy. As they see it, the arrival of such huge employers tends to soak up all the labor supply and force other companies out. Then, when the big employers cut back, there is no one else to take up the slack.

Others are disturbed over the growing influence of organized labor that has accompanied the industrialization, and the unions' lack of concern for civic questions.

They point to the fact that AFL-CIO



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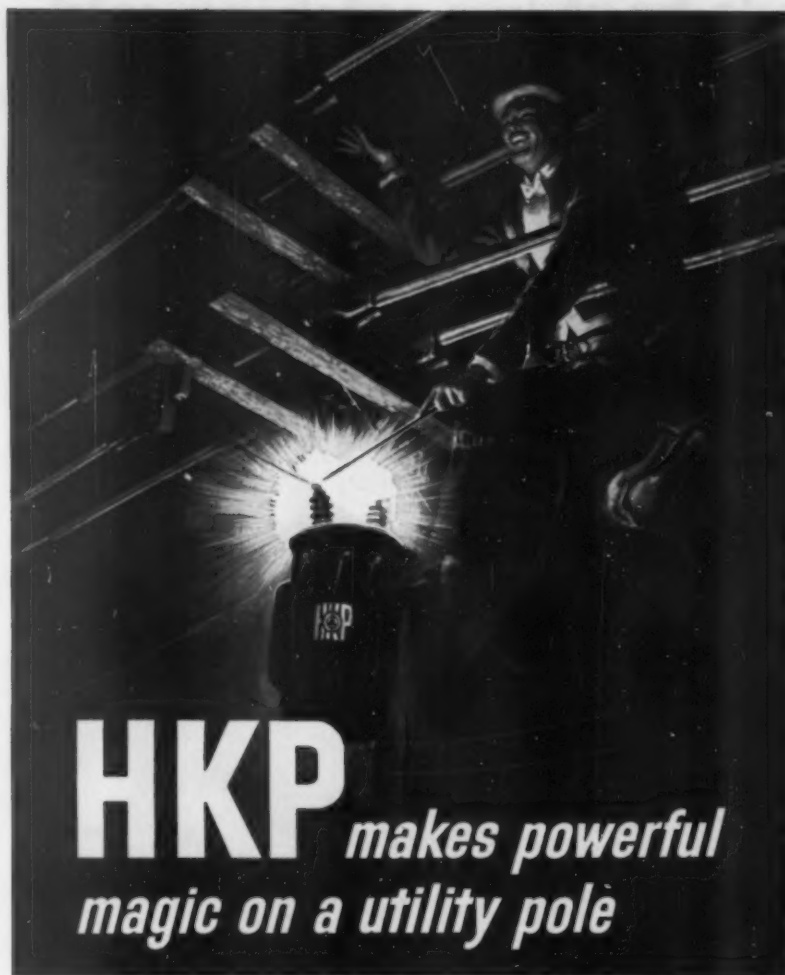
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The Delta-Star transformer, one of a continuing procession of new Porter products, is a result of planned diversification in which Porter offers the services of divisions manufacturing steel and fabricated steel products, copper-alloy metal products, electrical equipment, refractories and industrial rubber, wire and cable.

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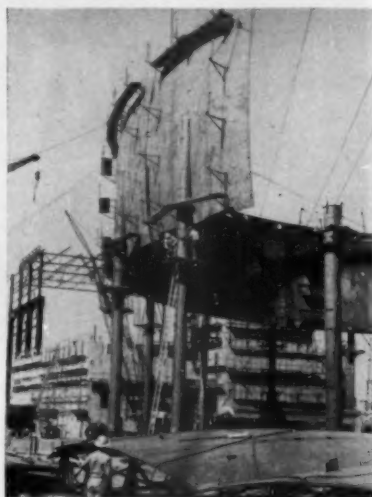
leaders threatened to oppose the slum clearance bond issue unless the city met certain demands for its unionized employees, and that the United Auto Workers opposed the city's move to annex the Ford plant so that its members would not be subject to the city's occupational tax.

### V. A Breather

If industry has for the while stopped coming to Louisville and the city is given a breathing spell, some people feel it may be a good thing.

They see this as a good time for Louisville to take stock, to make its master plans, to get its government relations with the suburbs squared away. They place some hope in the proposals for downtown, note that Stewart's department store, for one, contemplates a multimillion-dollar downtown expansion to attract customers.

On the theory that a number of unemployed are women tobacco workers laid off seasonally, they want to watch the figures over a longer period before becoming alarmed.



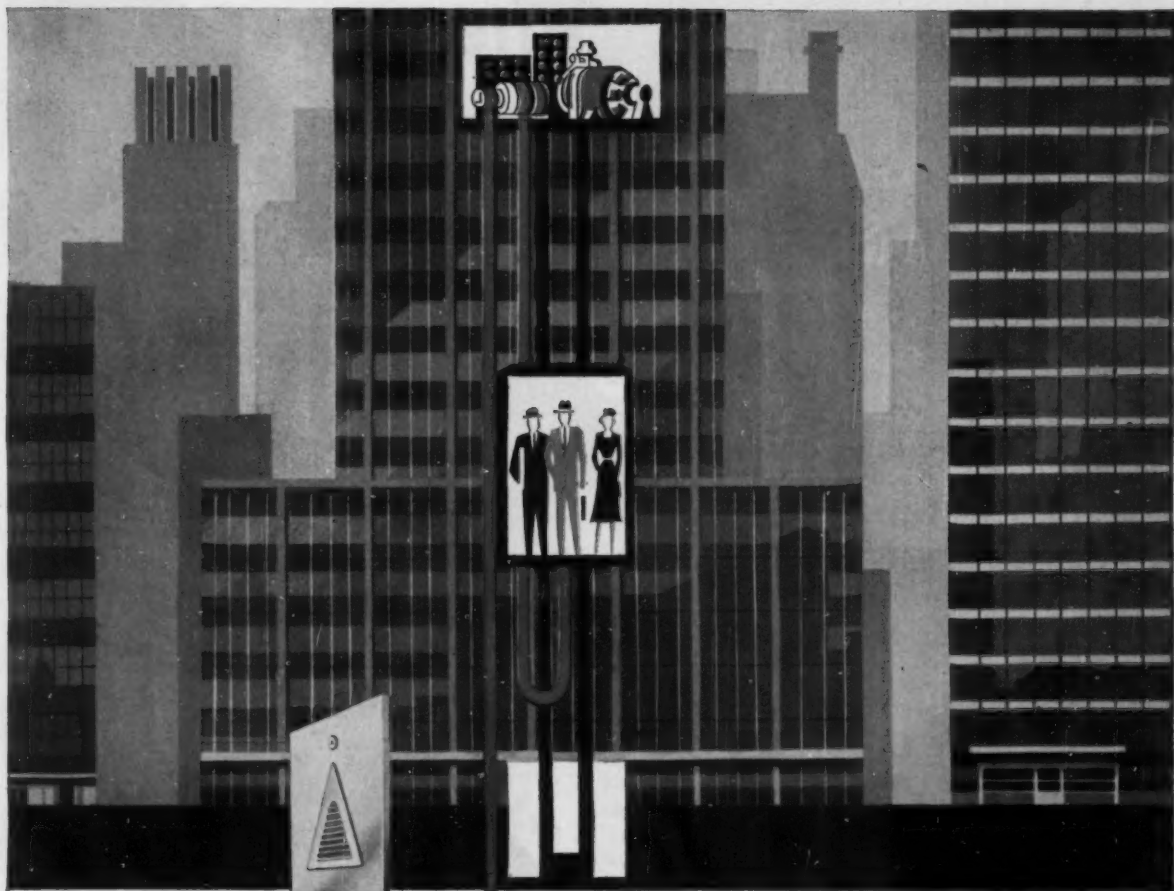
### Setting Up Reactor

Sections of a 190-ft. steel sphere are welded into place at Commonwealth Edison Co.'s 180,000-kw. Dresden Nuclear Power Station on the Illinois waterway 50 miles southwest of Chicago. The sphere will contain the plant's boiling water reactor. When completed, it will be the country's largest atomic power reactor.

The station is being built by General Electric Co. for a contract price of \$45-million. Associated in the project are American Gas & Electric Service Corp., Bechtel Corp., Central Illinois Light Co., Illinois Power Co., Kansas City Power & Light Co., Pacific Gas & Electric Co., and Union Electric Co.

The project, started last June, is scheduled for completion in 1960. **END**

BUSINESS WEEK • Oct. 12, 1957



Automatic elevator system similar to that installed by Westinghouse Elevator Division in Seagram's new Bronze-sheathed building at 375 Park Avenue in New York.

## Add **COPPER**

... and they run themselves !

Elevators, the newest automatic ones, show you some of the electronic marvels made possible by Copper. (If it's electronic, there's usually Copper in it.)

Because *Copper* conveys the electrical impulses to transmit signals, elevators are dispatched automatically to where they are needed, skip floors when there is no more room, close their doors politely and safely, never give passengers "that sinking feeling."

When you step in, Copper enables a phantom voice to warn: "Stand back from the door, please." In a department store, the voice says: "This car down," even announces the merchandise on each floor. In a hotel, it calls out the floors.

Copper "nerves" enable control mechanisms to "think," so elevators are returned to the first floor at night, lights are turned out, motor-generator equipment shut down to save power.

America's electronic future will require Copper . . . and the Copper Industry will see to it that an ample supply is maintained to meet the need as it arises.

**DO YOU MANUFACTURE ELECTRONIC COMPONENTS?** You'll find Copper a highly "workable" material. Makes the most complicated shapes relatively easy to produce, reduces cost. Reduces product-bulk, too, through printed circuits and other miniaturization. And gives you an extra dividend in high-cash-recovery scrap!

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# In Management

## FTC Moves Against Acquisition Of Clorox by Procter & Gamble

Procter & Gamble Co. may face some headaches in its plan to spread out into new product lines (BW—Sep. 28'57,p172). This week the Federal Trade Commission filed a complaint that P&G's recent acquisition of Clorox Chemical Co., maker of Clorox, the country's largest selling household bleach, violated Sect. 7 of the Clayton Act.

Clorox, said the FTC, already sells about 48% of the total domestic market for household liquid bleaches. The second company in the field does about 16% of the business, with the balance split among some 40 other companies. Other companies, the complaint charged, will be unable to compete against P&G, with its dominant position in existing fields (over 50% of the soap and detergent field, a similar portion of the solid shortening business, and large chunks of the dentifrice market).

The FTC complaint also cited the fact that P&G, unlike other bleach producers, can offer a "full line" of cleansing and laundry products. In addition, the commission noted that P&G is second largest advertiser in the country. With its great economic strength and promotional ability, it can command hard-to-obtain shelf space in stores. All this tends to create a monopoly for its bleach product, said FTC.

## Cost-Conscious Boeing Rules Out Annual Company Festivities

Festive functions are getting closer scrutiny from cost-conscious executives. Boeing Airplane Co., Seattle, has called off two of them, its annual Christmas party, which included a circus and drew 94,000 in peak years, and its annual management banquet for supervisors and their wives, which had an attendance of 6,000. "Under the problems facing us," explained Senior Vice-Pres. W. E. Beall, "it is necessary to eliminate some things we would like to do but which are not absolutely necessary."

## Swiss Government Will Sue For Return of General Aniline

The question of "who gets General Aniline & Film Corp." got a little murkier last week. The big producer of chemicals, photographic products, and duplicating equipment has been the center of legal storms since it was seized as a German-controlled company during World War II. Most of the owners on record of GAF stock were Swiss. And last week the Swiss government announced intentions to sue for its return before the International Court of Justice at the Hague.

## MORE NEWS ABOUT MANAGEMENT ON:

- P. 187 The Executive in Fiction: How True is the Picture?

U.S. courts have already turned down all claims for return based on suits by Interhandel Corp., the Swiss holding company that owned over 90% of GAF before the seizure, and by individual stockholders of Interhandel. About six months ago, some of the stock was offered for sale by the Justice Dept., but legal complications, plus too few—and too low—bids, forced withdrawal of the offering. The latest Swiss action is likely to cause further delay in new attempts at public sale in the U.S.

Meanwhile, legislation again is being pushed in Congress for return of all seized assets. Washington observers suspect that, in view of the current impasse over the sale of GAF—the only major company still vested by the U.S.—Administration opposition to such legislation may soften.

## Too Ardent Wooing of New Help Can Lead to Headache, Says Banker

Headaches may be in store for companies that have over-sold themselves in recruiting new employees. A top banker warned that too many companies have been promising "beds of roses" to young college graduates, instead of concentrating on developing solid work-horses. Joseph C. Wellman, president of the American Bankers Assn. told a convention of the Financial Relations Assn. that "unrestrained and almost unbridled wooing" of the youngsters is making it increasingly difficult to develop the right sort of banking personnel.

"People can be encouraged and taught to like to work," Wellman said. "Nothing greater could happen to us . . . than a new surge of interest in wanting to work." But, he added, too many employers are courting future trouble for themselves by encouraging prospective employees "to believe that they can advance into important executive positions in a very short time and before they are ready for such responsibilities."

## Reynolds Consolidates Operations At Home, Branches Out Abroad

Toughening competition in the aluminum business has finally forced Reynolds Metals Co.—run by the four Reynolds brothers—to tighten up its top management setup. Its headquarters have been consolidated in Richmond. They had been split up half in Louisville and half in Richmond because the brothers had different residential preferences. The company's parts division also has been integrated with the rest of its production and sales. Previously, it was run autonomously.

Simultaneously, Reynolds is reaching out for foreign markets, because domestic production of aluminum is outrunning demand. It has set up a joint company in Great Britain—Reynolds Metals & T. I. Aluminum Co., Ltd.—with Tube Investments, Ltd., one of the largest British fabricators of aluminum and a company that had not previously been buying its metal from U.S. sources.

# The 14 most frequently asked questions about Business Consultants

**Q.** *What is a business consultant?*

**A.** An outside specialist called in by management to help with a special project or unusual business problem.

**Q.** *In what phases of business do consultants specialize?*

**A.** Some specialize in one field—like insurance, appraisals, or marketing. But the larger consulting firms usually offer specialized help in all these, and many other areas.

**Q.** *Which size firm can serve me best?*

**A.** That depends on your problem. However, with the complex structure of modern business, many problems can't be readily classified. It often takes investigation into many facets of a company's operations to determine what the basic problem really is. An integrated consulting organization offering specialists in many fields is more likely to find solutions that are sound from every angle.

**Q.** *How large or small an assignment will a consulting firm undertake?*

**A.** That varies with each firm. Most of the larger ones take assignments of all sizes—assignments ranging in duration from a few days to several years.

**Q.** *Any limitation on where they can serve me?*

**A.** That varies, too. Some consulting firms, like Ebasco, have had worldwide experience.

**Q.** *How can such outsiders know my business?*

**A.** The well-established consultant has probably worked for many companies in your industry or related industries in the past. The once-in-a-lifetime situation in your company may well be one he's handled a dozen times before.

**Q.** *Is it wise to engage a consultant who may have worked for my competitors?*

**A.** Certainly. Just as wise as employing an executive, a salesman, or any other worker who's had previous experience in your industry.

**Q.** *What happens if a consultant I engage works for one of my competitors in the future?*

**A.** Consultants are professional men with professional ethics. They cannot and will not reveal information of a confidential nature.

**Q.** *Do consultants offer standardized solutions?*

**A.** No. They draw on past experience, but each new set of recommendations is tailor-made.

**Q.** *How do they arrive at their recommendations?*

**A.** In general, through four specific steps: (1) They get the facts about the problem or the project; (2) They analyze these facts; (3) A program of recommended action is submitted to management; (4) When the program meets management's approval, the consultants plan the details and assist in putting the program into operation.

**Q.** *Are the services of business consultants expensive?*

**A.** A consultant's value can't be measured in dollars and cents, but by the results achieved. The fact that consulting firms derive much of their business as repeat assignments from clients served in the past proves the consultant's worth.

**Q.** *Wouldn't my company save money by putting the specialists it needs on its permanent payroll?*

**A.** No, since most special problems and projects that call for a consultant are of relatively short duration. Nor would specialists be easy to find in today's tight manpower market.

**Q.** *Can consulting costs be estimated in advance?*

**A.** Yes. Consulting firms will submit estimates of charges for each specific assignment.

**Q.** *What's the best way to select a consulting firm?*

**A.** Check with the Association of Consulting Management Engineers for their listing of members, or your own trade association for qualified firms. Select two or three and discuss your requirements with them. Ask whom they have served before—in what capacity—and how often. Then choose the firm that seems best suited to meet your particular needs.



Whatever your business or industry, one of the firms that may be recommended to you is Ebasco. Our booklet, "The Inside Story of Outside Help" describes the many consulting services we offer. We will be pleased to send you a copy. Address Ebasco Services Incorporated, Dept. C., Two Rector Street, New York 6, New York.

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# The Fiction-Eye View of Business

**T**HE U.S. BUSINESSMAN, operating for some years in a cheery climate of good times, has shed much of the odium that was heaped on him in the Depression. To help things along, just last year he spent, collectively, close to \$2-billion on "public relations."

But in the face of rosy atmosphere and massive effort, major executives are becoming seriously worried over a picture of business they fear is fastening on the public mind. The villains, as they see it: a handful of best selling novels and radio and TV programs that paint business as either a snake pit of ruthless ambitions or a giant press squashing everyone into faceless conformity.

Recently at an American Management Assn. Personnel Conference, there was a lot of talk—including a special panel at which writers defended their treatment of the executive—about why business looks so unreal from outside.

One worrisome statistic cropped up. About two years ago, a television show, *Patterns*, by Rod Serling, made its initial appearance. The central character was a vicious, snarling boss who rides one old employee until he dies of a heart attack, lashes and goads a replacement into staying and doing the job. The show got such popular and critical acclaim that it was reshowed on TV, since made into a motion picture. The average good TV drama may draw as many as 25 letters; *Patterns* drew some 600, mainly from people convinced that the portrayal was true, and many checking to see if the setting was the particular company that they thought it was.

**A**PPARENTLY the public image of business is rapidly being shaped in the image reflected in recent fiction, though few executives could recognize themselves.

The characters in "business novels" rarely do any specific work. They spend most of their time knifing each other in a race for promotion, or else resisting pressure to conform to some nebulous—and vaguely immoral—corporate mold.

Details of their jobs are shadowy,

but their sexual frustrations are clinically detailed. Heroes are inevitably outsiders—a minor official of a charitable foundation, a former government man from a minor post, a poet—who always start their corporate life just a short step below the top.

If the main idea is "race for promotion," the hero comes out on top—because all the dirty ingifters have killed each other off, not because he has special qualifications. If pressure to conform—a thread that runs through all the current literature—is the theme, the hero finally stalks out to go back to some "more honest" work.

Most executives would laugh themselves silly at the idea that they spend their waking hours in a violent intramural struggle for preferment. They're too busy working at very specific jobs.

The writers themselves concede that, on this score, there's little reality in their books. In the case of *Patterns*, author Serling readily admits that "it was quite by accident" that he used a business background, that the play was based on no personal experience. Novelist Ernst Pawel (*The Dark Tower*) defends use of a business background, even in the absence of specific business knowledge: "The writer is concerned with conflict. You wouldn't have a story if everybody is a nice guy." And, as playwright Francis Letton notes, the writer has recently discovered in business "a new background, one that is the core of living in today's America, a crystallization of our ambitions, successes, failures." Moreover, he suggests, considering the corporation as a battleground makes it a convenient background for the writer's own interpretations of ethics, survival, security, government, and economics.

In any case, the old "hero vs. heel" approach to fictionalized business may be on its way out. The new trend: "the businessman as a victim of the system." Here the villain is the corporation itself, a monster that squeezes even its top men with "pressure to conform" that "dehumanizes the individual."

On this score, many execu-

tives feel much more sensitive. Melvin H. Baker, chairman of National Gypsum Co., has suggested strongly that the writers had, if anything, understated the case against creeping conformity. "Yes-man-ship, the growing lack of individual initiative," he warned, is becoming a serious threat not only to business, but to the nation.

But Baker seems to be talking about something different from the writers. His fear is that as actual business techniques—production, sales, personnel training—become completely routine they may be creating a breed of junior executives, who by the time they become senior executives will have neither the courage, the initiative, nor even the aware intelligence, to run the big corporations they will be in charge of.

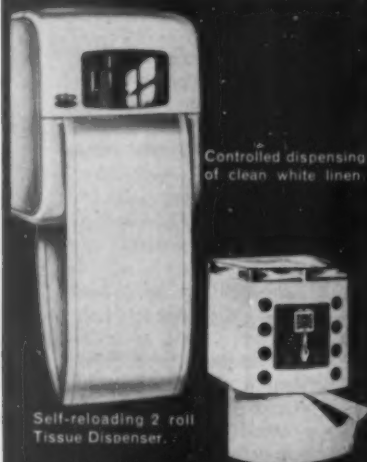
For their part the novelists are unconcerned about the individual's business effectiveness; they see the corporations creating a race of faceless social automatons who dress, eat, read, and play only as the corporation permits.

**E**VEN HERE, many executives fear there might be a germ of truth—some day. But for now, they argue, the picture is grotesquely distorted and overstated. The consensus as expressed by one executive at the conference: "Some conformity is necessary. As long as society, as well as business, hinges on organization, it's impossible not, in some sense, to be an 'organization man.' Most corporation executives today have far more personal freedom and broader cultural interest today than they did a generation, or even a decade, ago. If there's a feeling of unfulfillment, it is not attributable to business as such; it's a common experience."

Yet the writers have convinced much of the public that corporate executives are already faceless men. Says one executive ruefully, "I've got friends, not in business, who believe that—and see nothing paradoxical in the fact that they and I share the same activities and interests. I can foresee the day when some might even say defensively, 'Some of my best friends are corporation executives.'"



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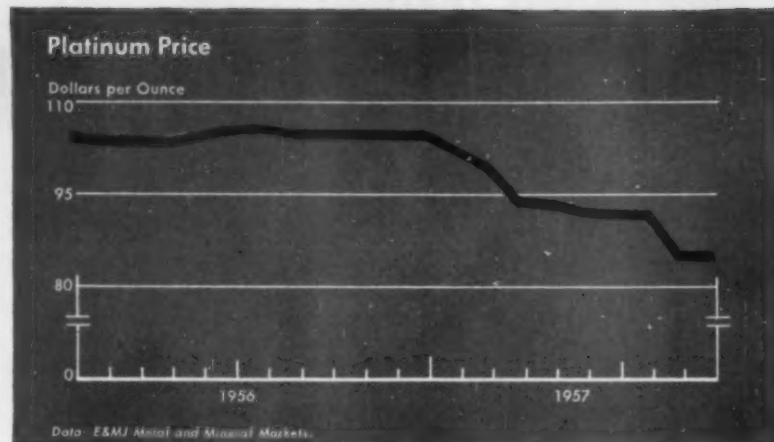
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## CHARTS OF THE WEEK

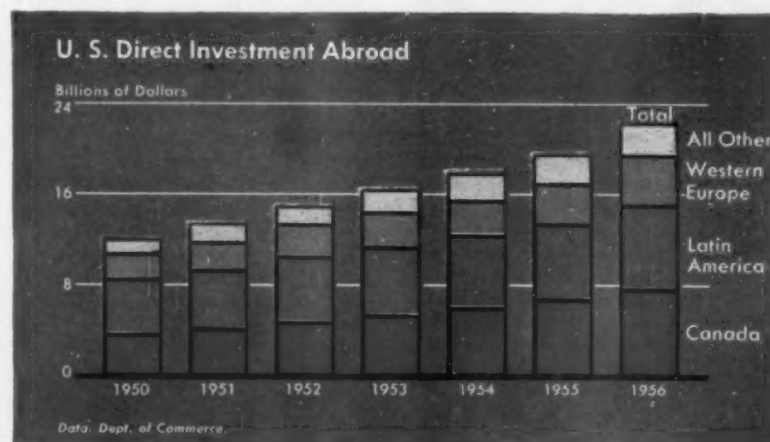


## Platinum Needs New Markets

Platinum prices have fallen to \$84 an ounce—down \$20 from last December and from one year ago. Only hope of an upturn appears to be the development of new markets and new uses, for world supply of the metal is larger than demand for the first time in many years. Principal industrial users of platinum are the chemical, petroleum, and electronic industries. They employ

platinum as catalysts. Only 10 years ago, jewelry supplied the principal use.

This year's decline in demand is postponing expansion plans of producers. A couple of weeks ago Rustenburg Platinum Mines in South Africa, the world's largest producer of the metal, announced a cutback in its plans for additional facilities until demand picks up.



## U. S. Capital Flocks to Canada

The expansion in U. S. direct investment abroad in 1956 amounted to a record \$2.8-billion, bringing the total U. S. private foreign investment to \$22.1-billion, the Commerce Dept. reports. The most popular area with U. S. investors is Canada. They poured nearly \$1-billion into that country in 1956, compared with \$400-million in 1955. The new capital went principally

to the petroleum and manufacturing industries. Last year, Canada became the largest single area of U. S. direct investment, taking the lead away from Latin America, which held it a year earlier.

The area getting the second largest chunk of new U. S. investment capital—\$800-million—last year was Latin America. Nearly half of this amount





## 385 General Electric Thinlines Air Condition Home Life Office in New York

Efficient, economical General Electric *Thinlines* air condition 120,000 square feet of office space in the Home Life Insurance Building in downtown Manhattan.



Installed in lower half of double-sash windows, *Thinline* blends neatly with surroundings—doesn't stick into room.

"We saved 60% of the estimated price of a central system (including cost of installation) by air conditioning our building with *Thinlines*," says Eugene C. Kelly, Assistant Vice President of the Home Life Insurance Company.

"*Thinlines* fit neatly in all our different kinds of windows. And they're economical to operate, too."

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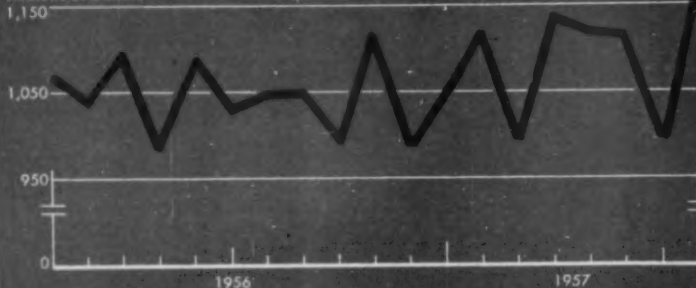
When a businessman wants business  
advice he turns to **Business Week**

went to Venezuela, primarily for petroleum. Western Europe and its dependencies received \$685-million in direct investment. Again, most of it found its

way into petroleum and manufacturing. The remaining \$350-million sent abroad last year by U. S. investors went to all other areas.

## U. S. Imports

Millions of Dollars



Data: Dept. of Commerce

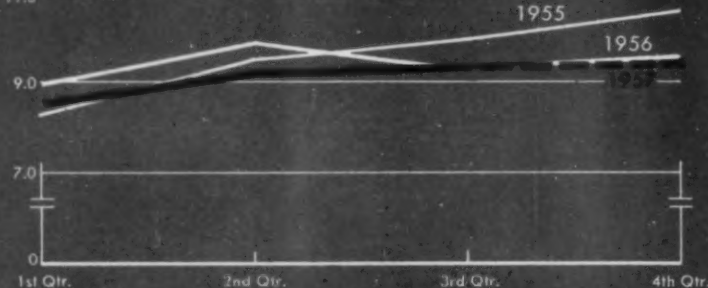
## Imports Spurt to New Peak

U. S. imports continued their general swing upward in July, reaching an all-time high of \$1.15-billion. That's a gain of 9% over July, 1956. The figure for this July also was 16% above the preceding month. For the first seven

months of this year, imports are up almost 3% over 1956. Larger imports of coffee, sugar, petroleum and petroleum products, crude rubber, iron ore, newsprint, and wool manufacturers contributed to the rise in July.

## Freight Carloadings

Millions of Cars



Data: Assn. of American Railroads; 13 Regional Shippers Advisory Boards Est.

## Less Cargo for Freight Cars

A 2.1% drop in revenue freight carloadings compared with a year ago is forecast for the fourth quarter by the 13 Regional Shippers Advisory Boards. In only two of the 13 regions were fourth-quarter increases estimated—in the Ohio Valley and in the Southwest. Eleven regions expected declines.

The drop is based on estimated shipments of 32 principal commodities. Some of those for which year-to-year

decreases are anticipated are automobiles and trucks, ore and concentrates, iron and steel, cotton, gravel, sand and stone, lumber and forest products, nonferrous metals, and brick and clay products. Increases over the fourth quarter, 1956, are expected in shipments of cement, lime and plaster, agricultural implements and vehicles other than automobiles, vehicle parts and some food products.



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## COMPANIES

# Epicure Editor Brings Missile Maker to Bay



PUBLISHER Beebe (right), Editor Clegg huddle in Delta Saloon. Beebe objected to Curtiss-Wright test site nearby until . . .



. . . TOWN'S WATER SUPPLY froze. Now A. L. Kendall, reservoir custodian, works for Curtiss-Wright because . . .



. . . THE SOLUTION Beebe promoted was for company to rescue the water system. In return, he switched chill to charm.

How Curtiss-Wright suddenly found itself owner of a waterworks in Virginia City, Nev., the ghost town that made good.

THE HONKY-TONK SCENE in the picture at right is typical of Virginia City, Nev., cradle of the Comstock Lode and birthplace of some of America's most fabulous fortunes. Ninety years ago Virginia City's boardwalks echoed the tread of the bonanza kings and such lesser lights as George Hearst and Lucky Baldwin, who, in the aggregate, gouged some \$700-million in gold and silver ores from the slopes of overhanging Mt. Davidson. Today, those weathered planks are, for a host of goggle-eyed tourists, a quaint link between the reality of one mid-century and the legend of another.

A few months ago, the boardwalks felt the footfall of another group, neither bonanza kings nor tourists—the board of directors of Curtiss-Wright Corp. They gathered as witnesses to the shotgun wedding of Curtiss-Wright to a wronged, once-infuriated but now benign bride—Virginia City.

• **Rites at Gunpoint**—Lucius Beebe, vitriolic publisher of Virginia City's Territorial Enterprise, manned the shotgun while Charles M. Clegg, his editor, pronounced the blessing. Roy T. Hurley, Curtiss-Wright's chairman and president, offered a faltering toast to the nuptials in lieu of a kiss.

A more palpable case of miscegenation would be hard to imagine: Curtiss-Wright, the suave, very proper exemplar of efficiency and ultrasonic achievement in the age of jet flight, and Virginia City (pop. 400), the bawdy, hell-roaring ghost town of the Comstock.

### I. "Yankees, Go Home!"

The romance—if that's the word—had its origin in Curtiss-Wright's search for a large piece of isolated real estate where it could pursue its studies of jet propulsion in privacy. Unhappily, Pres. Hurley found the land—upwards of 100 sq. mi. of it—in the desert of Storey County, Nev., hard by Virginia City, the county seat. Here the Southern Pacific RR owned tens of thousands of acres of old federal land grants that it was eager to unload at the right price.

Beebe, a fugitive from the saloon



THE VOICE of Virginia City is Lucius Beebe's



AT THE DELTA, Bad Water Bill plays one-string bass—stick, rope, and a tub.



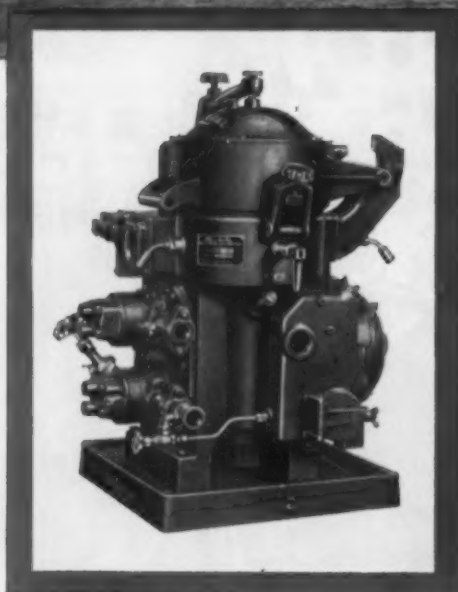
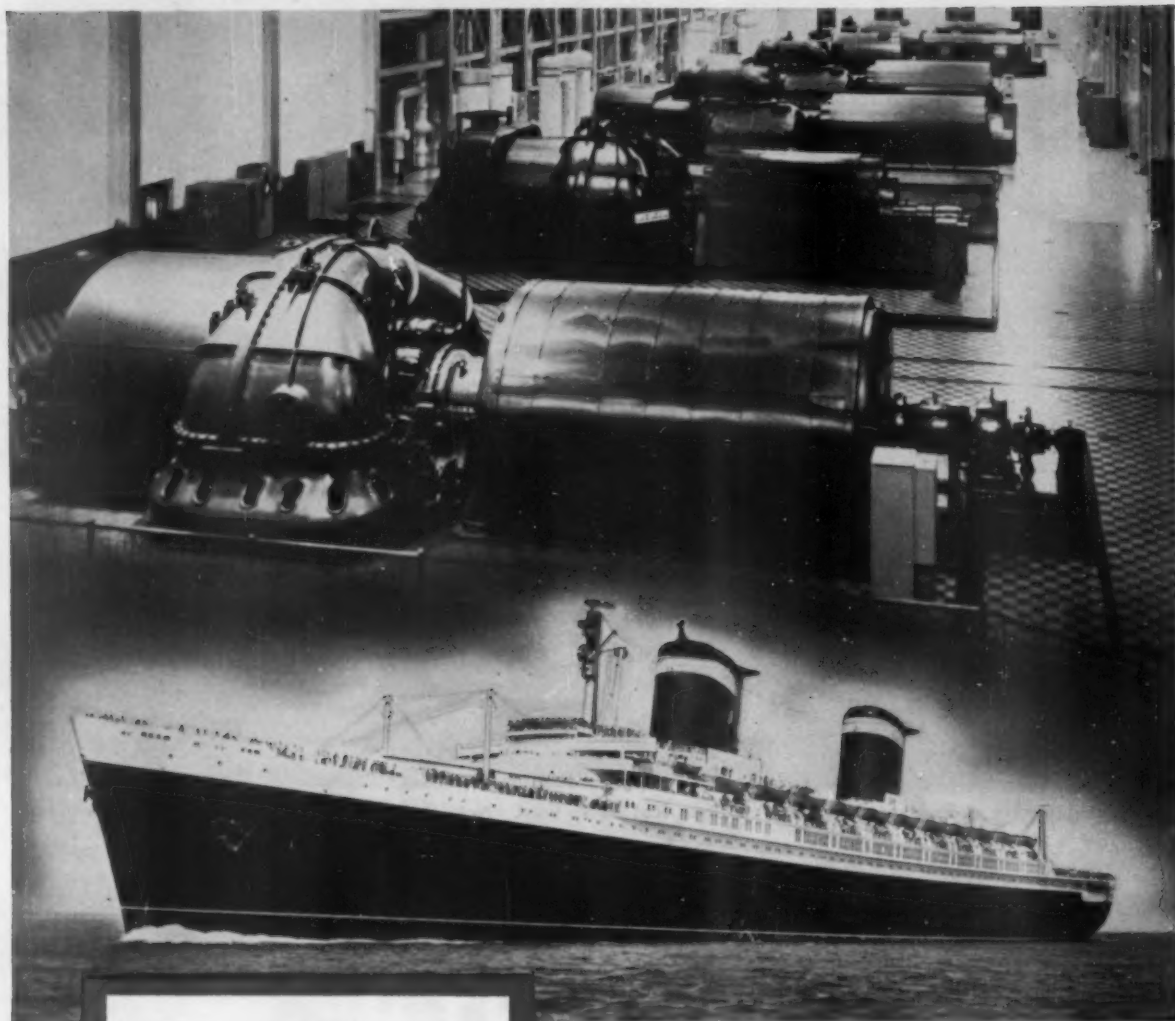


Territorial Enterprise, but C Street saloons such as the Brass Rail are its heart. Note slot machines and blackjack game in progress.



VARIETY STORE displays just that to clientele of tourists and crusty town characters. The proprietor is Buffalo Bill Shetler.

from **WATTS** to **KNOTS!**



### This is a DE LAVAL UNI-MATIC...

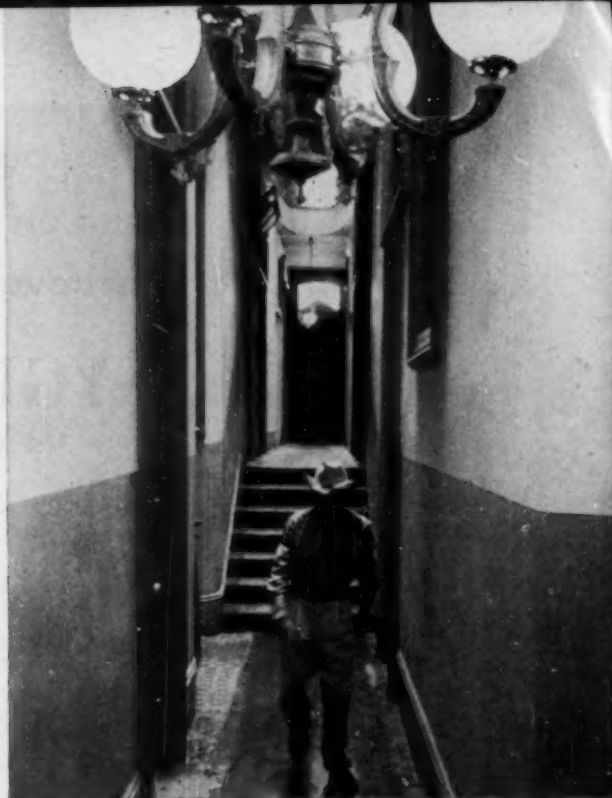
there are 22 of them in Duke Power plants *continuously* keeping turbine oil in prime condition, removing water and oxidation products, reducing sludge to a minimum . . . De Laval Uni-Matics do the same *continuous*, efficient job on the high seas for the S. S. United States . . . protect her turbines, provide top efficiency!

In an incredibly vast range of applications, De Laval Centrifugals solve the toughest processing problems . . . clarify, separate, concentrate, purify, dry and standardize *continuously*...with peak efficiency. No matter what you make...or what your processing problem...get the facts on how De Laval improves products and profits...today!



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FIGURE OF JUSTICE (without a blindfold) adorns courthouse of Storey County (pop. 600).

### (Story starts on page 192)

society of midtown Manhattan who found solace in the saloon society of Virginia City's C Street, got wind of the deal, gave his typewriter a transfusion of invective, and teed off on Curtiss-Wright.

• **A Proper Bagnio**—In an editorial titled "Yankees, Go Home!", Beebe contrasted the public relations of that "predatory posse of business-suited opportunists in New York" with that of an enlightened local businessman named Joe.

"One day last week," he wrote, "in the normal course of events, Joe, the manager for The Girls down on the river, came to town on a routine goodwill trip and to spread a little money around. He bought drinks in all the right places, distributed cigars liberally, and departed, always leaving a pile of dollars to provide for latecomers. It was simply an ordinary gesture of amiability with no special purpose other than to demonstrate the good feelings that exist between one of its industries and the community of Storey County as a whole.

"None of this is particularly significant except as it goes to show the difference in public relations between



LEFT TO ITSELF after tourists return down the mountain toward Reno Sunday night, Virginia City regains ghostly calm. Only bartender and pianist remain in the Capitol bar.



Here's why wise business men  
insist on  
office chairs covered with

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**1** Nygen Tolex has all the rich appearance of natural leather plus many unique advantages.

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The Harter Corporation  
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THE GENERAL TIRE & RUBBER COMPANY  
TEXTILELEATHER DIVISION • TOLEDO 3, OHIO

Makers of supported vinyl fabrics for  
products used in business and homes



a properly conducted provincial bagnio and the multimillion-dollar Curtiss-Wright Corp., which is presently also planning to move in down by the river and lay out a suburb of hell where nobody but Curtiss-Wright wants it."

• **Guy Fawkes Nuisance**—He denounced the Southern Pacific's "complicity," and he leveled scorn at Nevada's Gov. Charles H. Russell "who was conned into the delusion he was acting from patriotic motives." But the angry publisher reserved his choicest prose for the "arrogant, incredibly rich" corporation that had "engineered a gigantic land grab for the perfection of guided missiles or some other Guy Fawkes nuisance that it is reluctant to name."

"Storey County has, in essence, been invaded," he wrote, "without its knowledge or consent by big business and an aspect of massive industry of such an offensive order that it couldn't get in anywhere else."

• **No Comment**—Just how this blast was received in the paneled board room of Curtiss-Wright is not a matter of record. That it was heard is a foregone conclusion, for the strident voice of the terrible-tempered Territorial Enterprise every week reaches the ears of 7,000 delighted subscribers in every state and in 16 foreign countries. But Curtiss-Wright, silent, probably stunned, turned the other cheek.

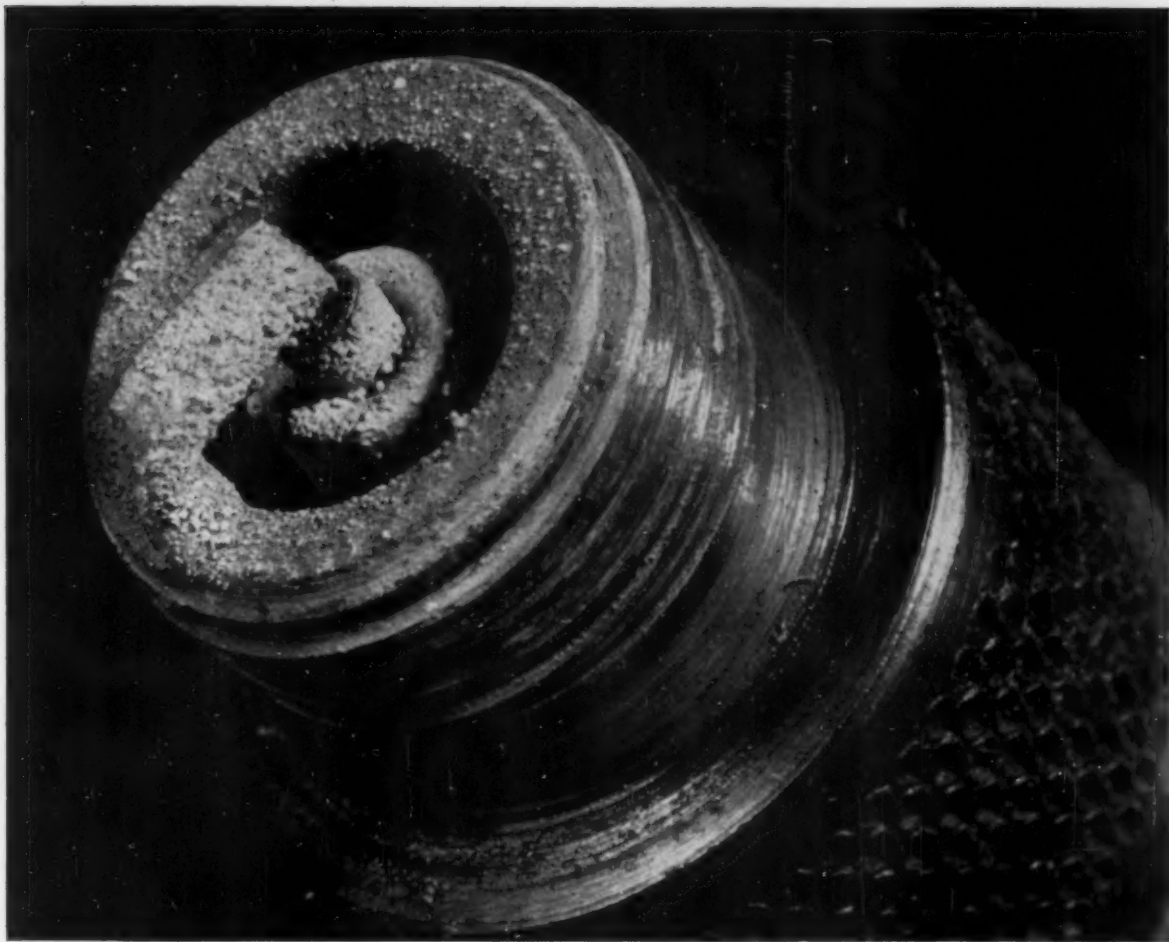
Clearly the romance was not a case of love at first sight. Pres. Hurley could be excused for rationalizing that the course of true love never does run smooth.

• **Frozen Flumes**—That was last October. Came the winter and the irascible publisher's attention was diverted, momentarily, by another call to arms. Virginia City's water supply, siphoned over the Sierra from Lake Marlette and cascaded down the mountainside in open flumes, froze solid.

In Virginia City, water is used for two purposes, putting out fires and washing. For human consumption, water is eyed with suspicion, both as a pollutant of the liver and as a cancer gnawing at the vitals of the town's principal industry, saloonkeeping. Along C Street, nobody worried much about not washing, but the possibility of fire, fanned by winter's Washoe zephyr that's been known to tear a door off its hinges, stirred the Territorial Enterprise to new transports of rhetoric.

Beebe rekindled memories of the great fire of 1875 that reduced Virginia City to ashes. He rebuked the Virginia City Water Co., "looted and dismantled by the rapacity of generations of its owners"; he let fly at the Storey County commissioners' "dictatorship of entrenched stupidity," and he appealed successively to the Public Utilities Commission, Civil Defense, Gov. Rus-





This unretouched photograph, taken by Edmund F. Hawes, UOP Staff Photographer, was awarded First Prize in the 1956 ASTM Photographic Exhibit.

## What took the spark out of this plug?

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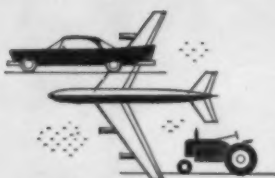
constantly concerned with motor fuels made by UOP processes—to help guard against plug fouling and to maintain all the high performance characteristics demanded by modern engines. We believe that in this way we can make an important contribution to the refiner's marketing and manufacturing well-being. Refiners, everywhere in the free world, look to UOP for the processes and service so important to the production of cleaner, more efficient motor fuels.



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Convincing evidence that markets are never static... that there is always a new crop of buyers and buying influences to contact... cultivate... and sell.

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**McGraw-Hill Publishing Co., Inc.**

330 West 42nd Street, New York 36, N. Y.

Headquarters for Business Information

sell, and Presidential Assistant Sherman Adams, all to no avail.

• **Polite Blackmail**—As the waterless weeks passed, Beebe conceived the idea of linking Virginia City's two tragedies together. He never flatly accused Curtiss-Wright of freezing the town's water supply, but he did suggest editorially that the "business-suited opportunists" might expiate their sins against the dignity of the Old West by unfreezing it.

On the stone and ready to be locked up in the page form, Beebe had an editorial that started, "Gentlemen, it's time for the rope," when word arrived that Curtiss-Wright had yielded to the blackmail. He yanked the editorial and substituted for it one headed "A Gesture of Knightly Dimensions."

• **Truly Knightly Gesture**—Of Curtiss-Wright's decision to advance \$140,000 for revival of water service, Beebe wrote: "In its larger dimension, Curtiss-Wright's solution of a particularly vexatious local dilemma is a knightly gesture of salutation to the legendary past by a great corporation whose dominant concerns are with the immediate present and unforeseen future."

"It would be a good idea if Comstockers now and then paused in the saloon of their choice to raise a chalice of the very best with Curtiss-Wright written on it in big, bold, and grateful emblazon."

Repairs were made, water was restored, and Curtiss-Wright subsequently bought out the water company. The company is reportedly laying parallel conduits from the reservoirs in the hills to serve what Beebe once described as "a remote geographic locale in which to mount some arcane and presumably offensive Fourth of July experiments in noise and combustion."

## II. Personal Journalism

Curtiss-Wright has made a point of not saying how it intends to use the one-third of Storey County it bought from the Southern Pacific. It's a safe bet, though, that no matter what kinds of jet engines or missiles it tests in the desert, they won't make so much noise as the Territorial Enterprise.

The newspaper where Mark Twain was a reporter may not be the last bastion of personal journalism, but it is surely the most articulate and widely read. It was founded in 1858, discontinued in 1916, and revived in 1952 by Beebe and Clegg.

With its full-time staff of nine, including the pressroom and mailing departments, it's the largest private employer and the only newspaper in Storey County (pop. 600). It has grossed as much as \$85,000 a year and has returned a profit to Beebe and Clegg every week from the first issue.

• **Roughing It**—Profits are relative, of

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## **EUCLID MODEL S-7**

143 h.p. GM diesel  
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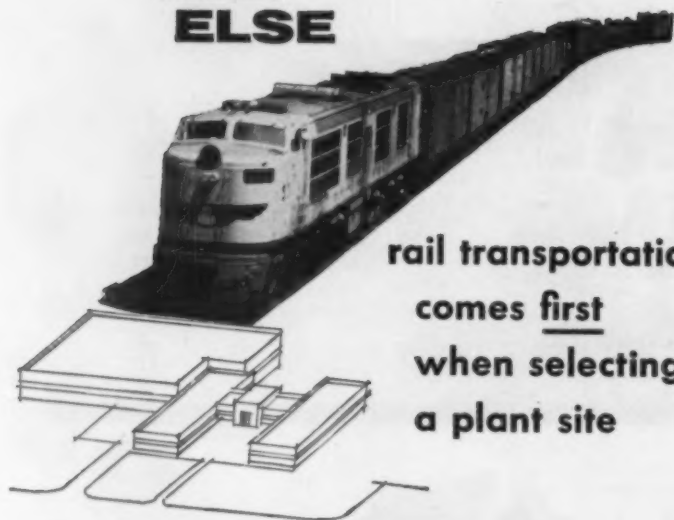


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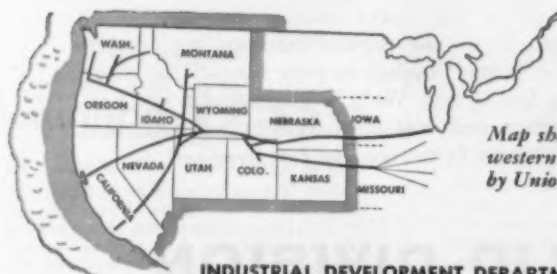


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when selecting  
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*Map shows the vast western area served by Union Pacific.*

**INDUSTRIAL DEVELOPMENT DEPARTMENT  
UNION PACIFIC RAILROAD**

Omaha 2, Nebraska

**"... saloonkeepers reciprocate Beebe's lavish patronage by advertising ..."**

**VIRGINIA CITY starts on p. 192**

course. There's room for doubt that the two owners could sustain their way of life if they pocketed the whole gross tax-free. They hell around the country in a luxuriously appointed private railroad car, with three telephones, a working fireplace, an intercom system, a galley, and a well-stocked wine locker. For local transport, they rough it in a Rolls Royce, a Jaguar, and an Oldsmobile convertible. And they support a 250-lb. St. Bernard named Mr. T-Bone that could, in emergency, be pressed into service with saddle or whiffletree.

They pay themselves \$125 a week each and spend most of it with the saloonkeepers who are their neighbors on C Street. It's a daily ritual to knock off their labors at 5 o'clock and adjourn to the bar of the Delta Saloon for an editorial conference with the staff and any habitués who care to join in. It's not uncommon to see the elegant Beebe, bon vivant author of the definitive work on the Stork Club bar, huddled at the Delta bar in earnest communion with (but always downwind of) the bewhiskered Basque sheepherder known only as Garbage Mike—who lives in a cave, speaks only Basque, and earns an honest if meager living as Virginia City's garbage collector.

• **Turnabout**—But commerce is not a one-way street. The saloonkeepers reciprocate Beebe's lavish patronage by advertising in the Territorial Enterprise. The vibrant messages of the Delta, the Brass Rail, the Old Capitol, and the Mark Twain are cheek by jowl with the ads of the Pump Room in Chicago, Antoine's in New Orleans, Le Pavillon in New York, the Riverside in Reno, the Sheraton-Palace in San Francisco, Dave Chasen's in Hollywood, and Del Monte Lodge in Pebble Beach. National Distillers thought well enough of the medium and its bibulous readers to buy a 12-page section in August to launch a new advertising campaign for Old Sunny Brook whiskey.

It's not hard to find a motive for such cordial patronage. Both Beebe and Clegg, in addition to their prolific writings about old railroads, are international connoisseurs of food and drink who write prodigiously on the subject. Unable to find domestic mutton of appropriate quality, they buy it on the Strand in London. Their epicureanism extends to such gastronomic trifles as rock snails and baby eels. But Beebe does draw the line. Clegg almost dissolved the partnership once by serving





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rattlesnake pâté without identifying it until Beebe was smacking his lips.

• **Low Tone, High Proof**—Beebe says with no small pride that the editorial content of the Territorial Enterprise is "the news of a community of gratifyingly low moral tone and high alcoholic proof," that the paper "assassinates stuffed shirts to order." His Back Bay blood gurgled with fiendish glee when a lady subscriber in Boston asked to have her copy mailed in a plain wrapper.

For its sheer rhetorical appeal to sophisticated readers far beyond the gutters of Virginia City, the paper is an admirable if whimsical showcase for snobbish cafes from coast to coast.

• **New Lode**—Beebe and Clegg are on terms of easy camaraderie with most of the saloonkeepers and card dealers along C Street. For the rebirth of the Comstock as a tourist trap has poured a golden stream of silver dollars through the swinging doors and the slot machines, and the phenomenon dates from the reactivation of the newspaper. With a touch of provincialism, Beebe notes that the Delta sold more beer in August than any other dispensary in Nevada, save the Riverside Hotel in Reno, 22 miles north.

Old-timers, however, fiercely resent the tourist invasion and would welcome the opportunity to silence the siren voice that lures the intruders. Whether for this reason or merely for perpetuation of the Western tradition in journalism, Beebe weights the papers on his desk with a wicked looking forty-five.

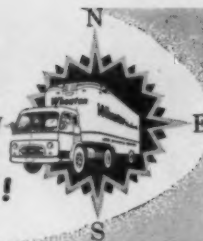
• **Museum City**—For better or worse, Virginia City is an authentic relic of the Old West and particularly of the era between 1859 and 1880, when the Comstock Lode was yielding its treasures in precious metal to the founders of the Mackay, Flood, Fair, Sharon, and Hearst family fortunes.

Few buildings survived the holocaust of 1875. Most that are standing today date from the year following, and though some are in ruin, the majority is in fair shape without disfiguring signs of modernization.

• **One-Armed Bandits in the Bath**—Beebe and Clegg live in Victorian splendor in a two-story house of Gothic Revival persuasion, exquisitely furnished and decorated in the period motif. Its bathroom boasts, in addition to the usual appurtenances; a steam room and a battery of five slot machines geared to pay the house a small percentage. Clegg maintains the machines to finance his Christmas gift-buying, but Beebe periodically hits them to pay for expeditions to the fleshpots of C Street.

They own the only swimming pool in a radius of 20 miles; it's equipped with a complete kitchen and bar for pool-side dining in the elegant manner. **END**

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Of Business Week published weekly at Albany, New York for October 1, 1957.

1. The names and addresses of the publisher, editor, managing editor, and business manager are: Published by McGraw-Hill Publishing Company, Inc., 330 West 42nd Street, New York 36, N. Y.; Editor, Elliott V. Bell, 330 West 42nd Street, New York 36, N. Y.; Managing editor, Kenneth Kramer, 330 West 42nd Street, New York 36, N. Y.; Business manager, Richard E. McGraw, 330 West 42nd Street, New York 36, N. Y.

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McGraw-Hill Publishing Company, Inc.

By JOHN J. COOKE, Secretary.

Sworn to and subscribed before me this 3rd day of September, 1957.

(SEAL)

JANET A. HARTWICK.

(My Commission expires March 30, 1959)

WHEN BUSINESS MEN WANT BUSINESS  
NEWS THEY TURN TO BUSINESS WEEK

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# How to Regain the Lead in Missiles

The Russians have demonstrated a clear lead on the United States in the long-range missile business. That is the ominous significance of the artificial satellite that began sweeping around the earth a week ago, beeping steadily on the note of A-flat. And there is no sense in kidding ourselves about it.

It is not just that they succeeded in getting their moon into the sky a few months ahead of ours. Even that is a serious propaganda defeat, and the damage it will do to the reputation of the U. S. will not be repaired for a long time. But two other things are more significant even than the propaganda effects: the weight of the Russian satellite and the accuracy with which it was set into its orbit.

This country's Project Vanguard will put a satellite weighing about 20 lb. into the sky sometime soon. The Russian satellite now up there weighs 184 lb. This does not mean that our scientists were foolish to design in terms of a smaller device—with the instrumentation that is planned for it, the Vanguard satellite will yield more scientific information than the Russians' Sputnik. But it does mean that while we are designing a propulsion system for a laboratory device, the Russians have designed one capable of handling a military weapon.

Moreover, there was no guesswork in the firing of the Soviet rocket. It was set neatly in an optimum orbit, and the Russians were able to announce its orbit as soon as it was aloft. Clearly, they have an accurate and reliable guidance system.

In the light of these two facts, it appears that the Russians were telling the sober truth last summer when they announced that they had perfected an intercontinental ballistic missile.

This is not an occasion for hysteria. Any time now, the U. S. will fire an Atlas ICBM that stays on course. And anti-missile devices are progressing so fast that the ICBM no longer seems to be the ultimate weapon it once did.

All the same, this is no time for soothing reassurances from Washington, or doubletalk from the military, or tranquilizing editorials about the predestined success of the American way of life over all challengers. It is not a time to be forbidding technicians to work overtime because time-and-a-half rates are expensive. It is not a time to be telling defense contractors to slow deliveries so we can pay them next year instead of this year.

Obviously, we now need a crash program to bring us even with the Russians in the science of rocketry—and if possible to put us ahead of them. In such a program we will have to forget about costs and concentrate on results.

But such a program will do us no good unless we are prepared to ask and answer some thoroughly disagreeable questions—questions that arise from

the thoroughly disagreeable facts of the situation that confronts us:

- Have we been spending enough on research—not just research on missiles but on broad scientific principles? The great research programs of private industry are no substitute for what the scientists call basic research—work that is done for the sake of knowledge itself. It is basic research that opens the way for the great breakthroughs.

- Can we afford the luxury of a Defense Dept. that is split into three disputatious parts with no real coordination among them? There is good reason to think that interservice rivalry has been one of the main things that has slowed up our missiles program. And there is more than a grain of truth in the wisecrack that the Russians probably know more about what the U. S. Army is doing than the U. S. Navy does.

- Can we continue our weapons program on a "go it alone" basis, or would we be wiser to set up a joint program with our allies? It's worth remembering that both of the great technical developments of World War II—radar and the atomic bomb—were developed in partnership with the British.

- And finally, can we continue to subordinate our defense program to a national policy that makes a fetish of price stability and fighting inflation? At the very moment that the Soviets launched their satellite, we were in the midst of a program of military cutbacks undertaken not because the spending was deemed unnecessary but because the Defense Dept. had been given a firm ceiling on expenditures and ordered to stay under it.

## The Price of Success

In short, the U. S. faces what is truly an agonizing reappraisal of some of its most fundamental attitudes and policies. From a position of unquestioned leadership in the race for weapons, we have dropped back to second place. And our position is all the more humiliating because we have been bested by a nation whose technical abilities we held in contempt.

Unless we are now willing to make whatever effort is necessary to recapture the lead, we will someday face an enemy so powerful that he can dictate the terms of any coexistence he wishes to permit us.

If the launching of the Soviet satellite spurs us to make that effort, our humiliation will be worthwhile. For the steady beep-beep coming in from space reminds us that a free society does not automatically produce a better technology than a regimented system. That comforting theory holds true only if a free society is willing to make voluntarily some of the sacrifices a totalitarian state can command—and has commanded—of its citizens.



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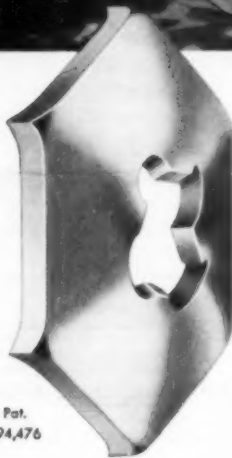
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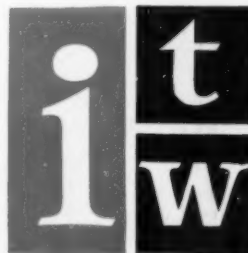
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